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EDITORIAL.

Dr. Theodate L. Smith has made a very thorough and apparently first study of the statistics of Yale College through the last century and reaches the remarkable conclusion that the fecundity of this century is not exceeded per wife by that of the last. The Editor has gathered and compiled similar figures from the three leading colleges for girls. These show even more than was expected that marriages of college graduates are late, few, and unfertile. Ten years after graduation were allowed before averages were struck.

Curiosity and interest underlie more and more all modern methods of education. In this article the same writers as above have tried to compile from many sources data to indicate the prevailing directions of interest in children and to give sufficient illustrations of the same to make the showing of practical use to teachers. A real question is a prayer for knowledge and should be treated almost sacredly. Some perhaps arise but once in a life-time. Perhaps we shall come to see that it is immoral to force knowledge upon unwilling minds.

Mr. Conradi has carefully gone over the question of children's natural interest in language and gives very copious lists of words that are favorite for various reasons, with an attempt to classify slang and to explain its prevalence and charm. His paper bears not only upon language generally but upon the

question of the best basis of English composition. His conclusions in favor of writing poetry are interesting and novel, and the curves for slang, reading craze and precision are at least suggestive.

Miss Smith, in answer to many inquiries, has attempted to briefly set forth the questionnaire method and to show the reasons for its high pedagogic value.

The usual reviews and book notes follow.

MARRIAGE AND FECUNDITY OF COLLEGE MEN AND WOMEN.[1]

By G. Stanley Hall and Theodate L. Smith.

During the past year much has been said in regard to the decrease in the size of the American family, and this has been especially emphasized in the case of the liberally educated class. The note of alarm sounded by the President of Harvard and the President of the United States, has been taken up by the newspapers until "race suicide" has become a theme for the comic papers. In all this it has been assumed, with no investigation of causes or conditions, that such a state of affairs is wholly bad, and that the prosperity and even the very life of the nation is threatened. For the present investigation, data have been collected from class secretaries, from published class reports, and from the valuable collection of biographies, of early Harvard graduates, by Mr. Sibley,[2] and the careful work of Mr. Dexter[3] for the first sixty-three years of Yale. The record of Harvard from 1658–1690 was compiled from Mr. Sibley's biographies, the record of each graduate being made out from the individual biographies. The class records earlier than 1858 were not sufficiently complete on the points included in the tables to be available for the present study. The record of Harvard graduates for the 18th and first half of the 19th century is still to be worked up, though much material has already been accumulated. The class reports from 1860 to the present time are fairly complete, and they have been supplemented by the courtesy of the class secretaries[4] in all cases where the report was not of recent date. The Yale record has been compiled from Mr. Dexter's biographies for the years 1701–1763, and the later periods covered in a more general way by Mr. Clarence Deming, of New Haven, in an article published in the Yale Alumni Weekly, March 4, 1873. Mr. Deming[5] made use only of the classes which had sum-

[1] These data were collected and tabulated with aid from the Carnegie Institute which is thankfully acknowledged.

[2] Biographical Sketches of Harvard University, John Langdon Sibley, 1885.

[3] Yale Annals Biographies, J. Franklin Dexter.

[4] The courtesy of Mr. Kiernan of the Harvard Library and his assistant is gratefully acknowledged, the Harvard records having been placed at the author's disposal.

[5] Permission to use Mr. Deming's data has been granted by courtesy of the editor of the Yale Alumni Weekly.

marized reports, but his results show so great a uniformity with the other data that they have been incorporated with them. Amherst has furnished tolerably complete records, 1825–1878. Middlebury from 1844–1878. Wesleyan from 1833–1871. Bowdoin from 1861–1878, and two other colleges, some scattered data. All of these records have some deficiencies, for the work of a class secretary is no sinecure, and the most conscientious secretary can only appeal to his classmates and cannot compel them to send in their records, but in taking the averages by decades, the results are so uniform that minor inaccuracies and deficiencies are shown to be practically ruled out. In nearly all cases the averages are probably slightly too low, as some members of the class fail to report in spite of the appeals of the class secretaries, the value of whose work deserves recognition, since through their efforts much valuable statistical and historical material is accumulated and preserved.[1] The reports which contain summaries have been of especial value in the present work. All the data which have been tabulated show that for the past century the average number of children per class member has steadily decreased, and that since 1870 scarcely a class has reproduced itself, *i.e.*, the average number of children per class member is less than two. These are the statistical facts, and the evidence is overwhelming that there is a steady and progressive decrease in the number of children born to college graduates. But, admitting the fact, does it follow that this is an indication of degeneration and wholly a matter to be regretted? Turning to the United States Census Reports for 1900, it would seem that the population of the United States as a whole is not in immediate danger, the actual increase in population for the decade from 1890–1900, being 12,946,436, as against an increase of 1,379,269, in the years from 1790–1800. By percentages this increase of over 12,000,000 inhabitants in a single decade is a drop from 31.1% to 20.7%, but during the last one hundred years the population has been multiplied by nineteen, and with its present population even the large territory of the United States could not support such an increase of population for many generations. Statistics in regard to the proportion of foreign born in the population extend back only to 1850. They are here given:—

	NATIVE BORN.	FOREIGN BORN.
1850	90.3%	9.7%
1860	86.8%	13.2%

[1] Especial thanks are due to Mr. Wm. P. Bacon, of New Britain, Conn., class secretary of Yale, 1858, who placed his valuable collection of class records at the author's disposal, and whose class record is the most complete of all those examined.

	NATIVE BORN.	FOREIGN BORN.
1870	85.6%	14.4%
1880	86.7%	13.3%
1890	85.2%	14.8%
1900	86.3%	13.7%

An examination of these percentages shows that while there was a sudden increase in emigration between 1850 and 1860 there has not only been no marked increase since that time, but during the last ten years a drop of 1.1% in the proportion of the foreign born to the entire population. In the year 1900, there were in the U. S. under the age of one year 1,158,585 native white children of native white parents, 493,466 native white children with one or both parents foreign born, and 4,076 foreign born children, from which it appears that the population of the U. S. has not become entirely dependent upon emigration for a very respectable birth-rate. But is there, notwithstanding this increase in the population as a whole, a decrease in the number of the educated classes? Turning to the report of the Com. of Education for 1900 we find that the increase of men students in colleges from 1890–1900 was 60.6%, and of women students, 148.7%. From these figures it appears that the educated classes are not threatened with extinction so long as the present rate of increase continues, even though it be true that less than one seventh of the entering classes at Harvard are descendants of previous graduates. But the question still remains, does the falling off in the number of children of college graduates who are the descendants of some of the best blood in New England imply physical degeneracy or a falling off in the ideals of family life and parenthood? While the causes of this decline are complicated and many of them beyond the reach of sufficient data, economic considerations and increased luxury of living on the part of both men and women are undoubtedly a potent factor. For the majority of college men, marriage is deferred much later than in former years, because in the sharp competition of the present day, whether a man enters one of the professions or goes into business, a period of from five to ten years and often more, elapses before he is ready to take upon himself the support of a family. It may, perhaps, be argued that the financial condition of the progenitors of these men was no better, and that, nevertheless, they married young and their family record was all that could be desired. But is this as true as it seems from a perusal of the bare statistics?

As a matter of fact, the study of the individual biographies of Mr. Dexter and Mr. Sibley show that these statistics are really misleading, because it has been erroneously assumed

that they show the average number of children per married couple, whereas that they do not show this becomes evident from a study of the mortality record among women and the number of remarriages recorded in the early biographies, which reveals the fact that a second and third, and sometimes even a fourth or fifth wife was required to bring up these large families. If a man has 12 children and marries five times (this is an actual record) the true average of children per couple for that family is four and not twelve. It is true that the later wives sometimes had few or even no children of their own, but in the estimate of children this makes no difference as these women were required to bring up those of others. On this biological blunder of estimating the increase of population per man instead of per woman and too narrow a study of statistics is based much of the alarmist outcry in regard to the future population of the United States. If, instead of reckoning the increase in population per man, the number of wives concerned in bringing up the families of the early graduates of Yale and Harvard had been taken into account, the decrease in the size of families would appear much less alarming than has been assumed. A comparison of the columns in Table XII shows that while as reckoned per man, the decrease in the number of children has been very marked, that the per cent. of decrease as reckoned per woman is much less owing to the great decrease in mortality among women, and the small number of second marriages in the present century, as compared with the early records. While the average number of children per married man in the Harvard record falls from 3.44 to 2.22 and 1.92 for the two last decades included in the record the average per woman falls from 2.98 to 2.07 and 1.84, and in the Yale record the corresponding figures are a fall from 5.16 to 2.55 per man, and 3.87 to 2.25 per woman. The following table reveals some facts in regard to mortality among the women of the past century, which when added to the great mortality among children and the enfeebled constitutions of many more, cause grave doubts as to whether the actual increase in population alone considered is the most important factor in the prosperity of a country, and whether quality and the vitality of the succeeding generation may not prove a compensating factor in the long run.

TABLE II.

Mortality Record of Wives of Yale Graduates from 1701–1763.

The number of graduates from 1701–1745 was . . . . . (of whom one-half were ministers.)	483
Of these 29 were unmarried, and of 36 there is no record . .	65
Deducting these 65 men the recorded marriages = . . . (19 of those unmarried died young leaving slightly over 2% of those living to marriageable age unmarried.)	418

Of the wives of these graduates 33 died at the age of 25 and under.
55 " " 35 "
59 " " 45 "
22 " " 50 "

Total deaths, 169

That is, over 40% of the wives of Yale graduates between 1701–1745 died at 50 years or under.*
Of these 35% died at 45 years or under.
21% " 35 " "
Nearly 8% " 25 " "

*The average number of surviving children per class member was 4.44.

The number of graduates from 1745–1765 was 505
of whom one-third were ministers.
Of these 30 were unmarried, and of 44 there is no record . . 74

Deducting these 74 men the recorded marriages = . . . 431
(35 graduates of this period died young.)
Of the wives of these graduates 33 died at the age of 25 and under.
54 " " 35 "
49 " " 45 "
18 " " 50 "

Total deaths, 154

That is $35\frac{7}{10}\%$ of the wives of Yale graduates died at the age 50 years or under.
Of these $31\frac{1}{2}\%$ died at the age of 45 years or under.
20% died at the age of 35 years or under.
$7\frac{3}{8}\%$ died at the age of 25 or under.
The average number of surviving children per class member was 3.83.

From this record it appears that 40% of the wives of Yale graduates between the years of 1701 and 1705 did not live to bring up their children, and it took a second, and frequently, in large families, a third woman to complete the task. The problem of superfluous women did not exist in those days. They were all needed to bring up another woman's children. The Harvard record for the preceding century, though less complete, closely parallels that of Yale, as may be seen by reference to Table IV, $37\frac{3}{10}$ of the wives of Harvard graduates, between the years 1658–1690, dying under the age of forty-five years. A little study into the conditions of life in the colonies during the 18th century throws a flood of light upon this great mortality among women. One half of the 483 graduates of Yale between 1701 and 1745 were ministers, and between 1745 and 1763 one-third of the graduates were ordained. The average salary of a minister during those years varied from £40 to £80 and firewood, the unusual and "liberal" salary of £120 being mentioned two or three times. Marriage was almost universal, only 2% of the graduates who lived to the age of thirty remaining unmarried, and ordination

was usually immediately followed by marriage, the average age of graduation being 21 years. The average age of marriage for women was under twenty-one, many marrying in their teens, and several marriages at the age of fourteen are recorded. Athough the purchasing value of money was somewhat greater than at the present times and standards of living much simpler, the majority of ministers eked out their salaries by teaching and the aid of a small farm. A family of less than eight children was considered small, and children were born very near together. The mother of the family, with the aid of the older children, spun, wove, knitted, sewed, baked, brewed, washed and ironed, and, in many cases, made the butter and cheese for the family. It is recorded of one woman that, though her husband received "even a smaller salary" than his brother ministers, yet, by the aid of a small farm and the produce, and skillful management of his wife, he was able to bring up and educate creditably eight children. Remarriage was almost universal for both men and women, economic conditions rendering it a necessity. A minister left with a family of little children could not on his meager salary hire a caretaker for them, and was obliged to seek a second mother for his children as soon as possible. A woman left with little children, and no means of support, must perforce accept the first opportunity that provided a home for herselt and children. Both men and women accepted the responsibility of bringing up families other than their own, with apparently a sense of religious obligation. Yet many of the younger women who accepted the responsibility of beginning married life with a large family lived to bear only one child. Under such conditions it is not surprising that many women laid down the burden of life before reaching the age of fifty, and many more lingered on as invalids, dying after a "long and painful illness," as is recorded with pathetic frequency. Medical practice was very primitive in those days, the minister often being the physician for the body as well as the soul, and there were few alleviations for long and painful illnessness. The unhygienic mode of dress among women must also be taken into account, not only tight lacing, but an unnatural lengthening of the waist being the universal fashion. The records of mortality among children are unfortunately too incomplete to be available for statistical purposes, but where given for individual families a rate of fifty or sixty per cent. or even higher rates were not uncommon. Laws of hygienic and heredity were apparently unknown, for we find such records as:

— — 10 children (9 died), first wife died of consumption at 45 years.

— — 13 children (7 died in childhood), mother died at 47 years.

— — 10 children (9 died in childhood), the father's salary was £40.

— — 14 children, first wife died at 28 years, having borne 8 children in 10 years.

— — 11 children, all by first wife, who died at 47 years, after a long, painful illness.

— — Wife died at 68, after 20 years of invalidism, for eighteen of which she was helpless, left 8 *surviving* children.

— — First wife died at 24, leaving 6 children.

— — First wife died at 19, leaving 3 children.

— — 8 children born within 12 years, 3 were feeble-minded.

— — 11 children. His wife was subsequently afflicted with long continued and distressing mental derangement.

This record could be continued for 323 women. A study of the families of over eight children shows that a large proportion of the mothers whose families reached or exceeded this size died in the forties or became invalids. In cases where this did not occur (for there were women who bore 10 or 12 children and lived to be ninety years old) there were, in many instances, more favorable financial conditions, so that the actual burden of manual labor was somewhat lightened.

The subsequent record of these large families can be traced in only a few instances, but the indications are all in the direction that very large families tend to extinction in the fourth or fifth generation and it is the families of moderate size which persist through successive generations. Mr. Sibly records one family of 20 children (8 by the 1st wife, 12 by the 2nd) none of whom have living descendants of the name except through one son. The mortality record of the original 20 is not given, but the only survivors mentioned by name were three sons and one daughter. In one New England family, where love of children is a marked chracteristic and which can be traced to fourth generation, the record is as follows: The grandmother bore ten children and died before reaching the age of forty. Of these ten children the three youngest were practically invalids for the greater part of their lives. Only two lived beyond the age of fifty. Eight were married, and of these eight marriages there are only three surviving descendants and none of these have yet reached the age of forty-five. In the fourth generation there is one delicate child. On the other side of this same family the record runs: grandmother had nine children and lived to the age of 87 leaving two surviving children of whom the oldest lived to the age of 84. All were married, but in the third generation but five descendants are living of whom four are unmarried, the cause in three cases being ill health. In the fourth generation is the one child already mentioned. In another family the record is 14 children of whom 10 lived to

maturity and eight married. The surviving children of these eight marriages from the next generation but two of these died before reaching the age of 40 and of the remaining eight two are unmarried and the other six have but three living children. These records can be paralleled in almost any group of old New England families, but among the many reasons ascribed for this extinction of old families, the unwitting sins of our grandmothers seem not to have been taken into account. We cannot read the record of their lives without doing reverence to their self sacrifice and devotion. They literally laid down their lives for their children but they violated, though ignorantly, the laws of nature and sinned against themselves and their posterity who must pay the penalty of an overdrawn account of vitality. And in so far as this is true, and the indications that it is true multiply with research, is it not simply an assertion of the law of survival of the fittest and therefore best for the race as whole, however repugnant to the individual, that the families of lessened vitality should die out?

It has been shown from the census reports that the population as a whole is increasing at a ratio which cannot be continued indefinitely even with the large territory of the United States, and that the liberally educated classes are increasing with a rapidity which may well cause us to stop and consider just what would be the result if all our college classes did reproduce themselves and send their children to college in addition to the steadily increasing body of recruits from below. The professions are already overcrowded, and, though it may be a fact to be deplored, it is still a fact that college graduates consider manual labor beneath them. There are some signs of healthful reactions in this respect, but they are, at present, only signs. This being so, if college classes all reproduced themselves there would be danger at no very distant day of an overcrowding of the liberally educated class and the balance between the productive laborers of the country and the organizing element would be lost. Japan is said to be suffering from this condition of affairs at the present time. The wealth of a country depends upon its productive laborers, and for the greatest properity of the country the balance must be kept. History teaches that all aristocracies tend to degenerate and must be constantly recruited from the ranks below. An educational aristocracy is no more exempt from this law than any other, and our strongest men have not, as a rule, come from the classes to whom a college education has been a birthright for several generations but from the ranks below. The decrease of one class, and that a class relatively small in relation to the entire population, does not necessarily mean any decrease in the population, and to speak of "race suicide" on the

basis of the decrease of one class is illogical (and in view of the facts reported by the latest census an absurdity). There seems to be but one element in the entire situation which calls for any alarm and that is, if it be true as has been asserted, that the sentiment of parenthood and sacredness of motherhood is declining, for if this be true of the educated classes, it will sooner or later filter downward and affect the entire population. It is certainly true that the percentage of marriage among college men has decreased and that from ten to thirty per cent. of those who do marry have no children. That this latter fact is due to deferred marriage, the dates in the marriage record gives unmistakable evidence; one college class having an unusually large per cent. of childless men, showing that over twenty of its members married later than fifteen years after graduation. Mr. Deming's statistics show $21\frac{6}{10}\%$ of the Yale classes from 1861-1879 as unmarried, and the Harvard record from 1870-1879 is 26½%. This, when compared with the 2% for men of corresponding age in the last century, shows the largest factor in the decreasing average of children per class member. An examination of the summary in Table VII shows that, at the present time, families of over six children are rare and a complete disappearance of families exceeding ten, with the largest relative increase in families of two, three and four and a somewhat smaller increase in families of one.

The record of deceased children in Table V, though not directly comparable with earlier records because of their incompleteness, shows a great decrease in the mortality of children. Since the indications are in favor of the survival of the smaller families as compared with large ones the decrease in the size of the family and the lessened mortality may both be considered as favorable for posterity. It is probable that the economic factor figures largely here, because conscientious parents look beyond the years of infancy to the increasing expense of the education of their children. That this is not always the case, and that families exist where the wife prefers her social pleasures and the husband his club to the duties of home and children can not be denied, for the large increase of club houses, more or less luxurious, for both men and women points clearly in this direction. As there is no way of finding out statistically how large this class is and as, if there were, it would not be likely to be influenced by any arguments which interfered with their own desires, they must be left to the action of the law of survival which forbids their perpetuation. It may be that the same factor is of importance in the decrease of the marriage rate, for it is true that many girls expect to begin married life on the same scale where their parents leave off, and this is also frequently assumed to be the case without the

assent of the woman herself. But it is also true that many women and men as well, remain unmarried from far from selfish reasons. The educated woman of the present generation has a higher ideal of motherhood than her grandmother had because her knowledge is wider. She refuses to marry even at the sacrifice of her own personal happiness, if she believes that there exists either in herself, or in the man whom she may wish to marry, any hereditary taint or physical unfitness that would deprive her children of the right to be well born. In the college records of the future we shall not be likely to find that a consumptive mother died at the age of forty leaving seven children, none of whom lived to maturity. The woman of the present has rebelled against the conditions of life which her grandmother endured uncomplainingly and as usually happens in periods of transition; she has, perhaps, gone too far in the opposite direction, but the instinct of motherhood lies far too deep in woman's nature to be permanently disturbed by any waves of social ferment and reconstruction; and with the increase of knowledge and wider opportunities, the love of children which is innate in every true woman will develop a race of mothers who will not indeed lay down their lives for their children as did their grandmothers, but, with a deepening sense of the sacredness of parental responsibility, will live for them and with them, understanding, sympathizing, growing with them, giving to them in her maturity the best which her years of preparation have given to her.

TABLE I. *Yale.*

Class.	No. of Graduates.	No. of Children who lived to Maturity.	Av. No. of Children who Lived to Maturity per Class Member.	Children who Died before Maturity.	Members of Class Unmarried.	Members of Class who Died Young.	Members of Class more than once Married.
1702	1	6	6	0	0	—	—
1703	1	9	9	0	0	—	1 married 3 times
1704	3	12	4	2	0	—	1 " 4 " 2 " 2 "
1705	6	33	5.50	3	0	—	2 " 2 " 1 " 4 "
1706	3	25	8.33	—	0	—	1 " 2 "
1707	4	12	3	—	0	—	1 " 3 "
1708	3	17	5.66	—	0	—	—
1709	9	47	5.22	7	0	—	3 married 2 times
1710	2	19	9.50	2	0	1 (21 yrs.) 1 (25 yrs.)	2 " 2 "
1711	3	11	3.66	—	0	—	1 " 2 "
1712	2	9	4.5	—	0	—	—
1713	3	15	5	—	1 no record	1 (33 yrs.)	1 married 2 times
1714	9	29	3.22	2	2	1 (21 yrs.) 1 (25 yrs.)	1 " 3 " 1 " 2 "
1715	3	11	3.66	—	0	1 (22 yrs.)	—
1716	3	22	7.33	11	0	—	1 married 2 times
1717	5	37	7.4	—	0	—	2 " 2 "
1718	13	49	3.76	3	1 no record	1 (22 yrs.)	2 " 2 "
1719	4	20	5	—	0	—	1 " 2 "
1720	10	46	4.6	7	0	1 (35 yrs.)	—
1721	14	44	3.14	15	1	1 (28 yrs.)	1 married 3 times 4 " 2 "
1722	8	16	2	—	2 no record	1 (28 yrs.) 1 (35 yrs.)	2 " 2 "
1723	10	14	1.40	—	2 3 no record	1 (21 yrs.)	1 " 2 "
1724	18	62	3.44	26	1 1 no record	—	5 " 2 "
1725	8	29	3.62	3	2 no record	1 (25½ yrs.)	—
1726	23	90	3.91	—	2 3 no record	—	5 married 2 times
1727	10	60	6	4	2 no record	—	3 " 2 "

TABLE I continued. *Yale.*

1728	13	58	4.46	11	1 1 no record	——	1 married 3 times 2 " 2 "
1729	17	47	2.76	8	1 3 no record	1 (26 yrs.)	3 " 2 "
1730	18	75	4.16	17	2 1 no record	1 (26 yrs.)	2 " 2 "
1731	13	49	3.76	9	1 2 no record	——	4 " 2 " 1 " 3 "
1732	23	86	3.73	17	2 1 no record	1 (23 yrs.)	5 " 2 " 3 " 3 "
1733	16	45	2.81	18	1	——	3 " 2 "
1734	14	78	5.57	5	1 1 no record	1 (26 yrs.)	1 " 3 " 1 " 2 "
1735	24	88	3.66	4	3 2 no record	1 (24 yrs.) 1 (26 yrs.)	3 " 2 "
1736	19	98	5.15	7	1 1 no record	——	1 " 3 " 5 " 2 "
1737	24	115	4.79	18	2 no record	——	4 " 2 " 1 " 5 "
1738	15	87	5.80	9	2	——	5 " 2 " 2 " 3 "
1739	10	32	3.20	4	2	——	1 " 3 " 2 " 3 "
1740	21	89	4.23	6	1 no record	——	6 " 2 " 1 " 3 "
1741	20	113	5.65	25	1 1 no record	——	5 " 2 " 1 " 3 "
1742	17	49	2.88	11	——	——	4 " 2 " 2 " 3 "
1743	24	105	4.37	12	3 1 no record	——	7 " 2 "
1744	15	47	3.13	19	——	——	4 " 2 "
1745	27	96	3.55	17	5 no record	2 (27 yrs.)	2 " 3 " 8 " 2 "
1746	12	41	3.33	9	1 no record	1 (30 yrs.)	3 " 2 "
1747	28	110	3.92	14	3 no record	1 (32 yrs.)	4 " 2 " 1 " 3 "

TABLE I continued. *Yale.*

1748	36	148	4.11	22	3 2 no record	1 (21 yrs.) 1 (22 yrs.) 1 (20 yrs.) 1 (23 yrs.) 1 (26 yrs.)	12 married 2 times
1749	23	84	3.65	17	2 2 no record	1 (23 yrs.) 1 (24 yrs.)	1 " 2 "
1750	17	64	3.76	2	2	——	{1 " 2 " 1 " 4 "
1751	22	92	4.18	8	1 4 no record	1 (31 yrs.)	{1 " 3 " 4 " 2 "
1752	14	71	5.07	8	——	1 (28 yrs.)	{4 " 2 " 1 " 4 "
1753	17	53	3.70	4	3 2 no record	1 (22 yrs.) 1 (23 yrs.) 1 (24 yrs.) 1 (25 yrs.)	3 " 2 "
1754	16	51	3.18	5	2	1 (22 yrs.) 1 (19 yrs.)	{1 " 2 " 1 " 3 "
1755	23	112	4.86	10	1	1 (23 yrs.) 1 (31 yrs.)	3 " 2 "
1756	33	157	4.75	8	2 2 no record	1 (20 yrs.) 1 (28 yrs.)	{1 " 3 " 3 " 2 "
1757	40	141	3.52	23	2 2 no record	1 (26 yrs.) 1 (29 yrs.)	{3 " 3 " 4 " 2 "
1758	43	146	3.39	14	3 5 no record	1 (29 yrs.)	{7 " 2 " 1 " 3 "
1759	49	202	4.12	30	1 4 no record	1 (30 yrs.)	{5 " 2 " 1 " 5 "
1760	33	110	3.33	32	1 3 no record	1 (23 yrs.) 1 (30 yrs.)	{2 " 3 " 6 " 2 "
1761	29	81	2.79	16	3 3 no record	1 (23 yrs.) 1 (27 yrs.)	3 " 2 "
1762	42	162	3.85	11	4 5 no record	1 (21 yrs.) 1 (29 yrs.) 1 (30 yrs.) 1 (32 yrs.)	4 " 2 "

TABLE I continued. *Yale.*

Class.	No. of Grads.	No. of living ch.	Av. No. of living ch. per cl. member.	Av. No. of living ch. per married.	Unmarried.	Members of cl. deceased.	Children deceased.	wives deceased.	Date of report fr. which data is taken.
1872	129	220	1.70	2.20	29	24	41	5	1897
1873	113	184	1.62	1.97	20	19	24	4	1893
1874	123	169	1.37	1.77	28	21	19	5	1889
1875	96	111	1.15	1.48	21	25	13	5	1895
1876	124	116	.93	1.63	48	30	20	—	1893
1877	119	113	.94	1.68	42	9	6	2	1892
1878	—	—	—	—	—	—	—	—	—
1879	138	50	.36	.79	65	—	—	—	1885
1880	123	152	1.23	1.63	30	16	—	2	1903
1881	129	107	.82	1.84	71	15	11	3	1896
1882	121	144	1.19	1.58	31	14	10	—	1889
1883	149	5	.03	.45	138	3	1	0	1886
1884	137	157	1.14	1.58	118	5	13	7	1901
1885	118	48	.40	.94	67	6	6	—	1896
1886	138	144	1.04	1.73	45	10	4	—	1901
1887	150	80	.53	1.11	78	6	—	3	1897
1888	120	32	.26	.54	61	2	—	—	1895
1889	120	84	.70	1.001	57	11	—	—	1899
1890	146	110	.75	1.22	56	1	—	—	1903
1891	185	91	.49	1.	94	4	—	—	1903
1892	176	106	.60	1.16	85	12	—	2	1903
1893	184	92	.50	1.06	98	12	3	3	1903
1894	—	—	—	—	—	—	—	—	—
1895	—	—	—	—	—	—	—	—	—
1896	276	50	.18	.50	226	2	4	3	1902
1897	—	—	—	—	—	—	—	—	—
1898	301	16	.05	.36	285	3	4	0	1902

TABLE III.

Table showing size of families for Yale graduates from 1701–1763.

83	men had families of		0	children.	4	married	2	times,	1	married	3	times.
83	"	"	7	"	25	"	2	"	3	"	3	"
75	"	"	6	"	12	"	2	"	3	"	3	"
									1	"	5	"
73	"	"	4	"	3	"	2	"	2	"	3	"
71	"	"	8	"	29	"	2	"	2	"	3	"
65	"	"	5	"	5	"	2	"	2	"	5	"
57	"	"	9	"	27	"	2	"	5	"	3	"
									1	"	4	"
57	"	"	1	"	4	"	2	"	1	"	3	"
									1	"	4	"
49	"	"	3	"	5	"	2	"				
43	"	"	10	"	20	"	2	"	3	"	3	"
									1	"	4	"
31	"	"	11	"	12	"	2	"	5	"	3	"
									2	"	4	"
24	"	"	12	"	11	"	2	"	1	"	3	"
15	"	"	13	"	5	"	2	"	2	"	3	"
15	"	"	0	"	4	"	2	"				
9	"	"	14	"	7	"	2	"				
3	"	"	18	"	2	"	2	"	1	"	3	"
2	"	"	16	"	2	"	2	"				
2	"	"	17	"	2	"	2	"				

Total number of families, 757.

TABLE IV. *Yale, 1701-1763.*

Table showing distribution of families according to size and per cent. of remarriage.

1.9	per cent. had families of			0	children.	Remarriage was	26.6	per cent.
7.5	"	"	"	1	child.	"	15.7	"
10.96	"	"	"	2	children.	"	7.2	"
6.4	"	"	"	3	"	"	10.2	"
9.6	"	"	"	4	"	"	9.5	"
8.5	"	"	"	5	"	"	13.8	"
9.9	"	"	"	6	"	"	29.3	"
10.9	"	"	"	7	"	"	37.3	"
9.3	"	"	"	8	"	"	46.4	"
7.5	"	"	"	9	"	"	70.1	"
5.6	"	"	"	10	"	"	67.4	"
4.09	"	"	"	11	"	"	90.3	"
3.1	"	"	"	12	"	"	108.3	"
1.9	"	"	"	13	"	"	60.	"
1.19	"	"	"	14	"	"	77.7	"
.2	"	"	"	16	"	"	100.	"
.2	"	"	"	17	"	"	100.	"
.3	"	"	"	18	"	"	133.	"

The class of '75 has issued no report since '93.
" " '79 " " " '84.

Several of the class secys. have found it impossible to obtain complete reports, and the averages are consequently considerably too low.

TABLE V.

Harvard. 1658-1690.

Class.	No. of Graduates.	No Record of Children or Marriage.	No. of Children who Lived to Maturity.	Average No. of Living Ch. per reported Graduates.	Children who Died before Maturity.	Unmarried.	Married and no Children.	Members of Class who Died Young.	Members of Class more than once Married.
1658	7	0	21	3	1	0	1	1 (26 yrs.)	2 married 2 times
1659	10	1	36	4	4	1	1	—	2 " 2 "
1660	8	2	20	3·33	1	1	—	1 (23 yrs.)	—
1661	12	3	20	2.22	8	0	1	1 (25 yrs.)	2 married 2 times
1662	6	0	36	6	7	1	—	0	1 " 4 "
1663	6	2	10	2·5	0	—	1	1 (25 yrs.)	—
1664	7	2	17	3·4	2	1	—	1 (27 yrs.)	—
1665	8	0	24	3	8	1	—	1 (22 yrs.) 1 (20 yrs.)	—
1666	4	1	5	1.66	—	0	2	1	—
1667	7	0	14	2	4	2	—	1 (20 yrs.) 1 (22 yrs.)	—
1668	5	0	11	2.20	—	—	—	1	—
1669	8	0	24	3	2	2	—	—	2 married 2 times 1 " 3 "
1670	4	1	11	3.66	7	0	—	—	1 " 2 " 1 " 3 "
1671	11	0	50	4·54	21	1	—	1 (24 yrs.)	4 " 2 " 2 " 3 "
1672	0	—	—	—	—	—	—	—	—
1673	4	0	19	4·75	—	—	—	1 (21 yrs.)	
1674	3	2	3	3	—	—	—	—	
1675	9	2	40	5·71	8	—	—	1	1 married 2 times 1 " 3 "
1676	3	0	1	·33	5	1	—	1 (26 yrs.)	—
1677	0								
1678	4	0	28	6.75	6	1	—	1 (22 yrs.)	1 married 3 times
1679	4	2	0	0	—	1	—	1 (20 ys.?) 1 (22 yrs.)	1 " 3 "
1680	5	2	7	2.33	5	1	—	1 (24 yrs.) 1 (30 yrs.)	2 " 2 "

TABLE V. continued.

1681	9	2	29	4.14	10	—	1	1	1 married 3 times				
1682	0												
1683	3	0	25	8.33	11	0	—	0	1	"	2	"	
1684	9	1	42	5.25	12	—	1	1	1	"	2	"	
									1	"	3	"	
1685	14	4	26	2.36	8	1	—	1 (19 yrs.) 1 (24 yrs.) 1 (27 yrs.)	1	"	2	"	
1686	7	1	27	4.50	3	—	—	—	1	"	3	"	
1687	11	2	50	5.55	17	—	—	—	2	"	2	"	
									1	"	3	"	
1688	0	—	—	—	—	—	—	—					
1689	14	4	40	4	12	—	—	1 (23 yrs.) 1 (25 yrs.) 1 (29 yrs.)	1	"	2	"	
									1	"	3	"	

Mortality Record of Wives of Harvard Graduates 1658–1690.

The number of graduates from 1658 to 1690 was 202.

Unmarried = 15
No Record = 34

49

Deducting these 49 men of the wives of the remaining 153 graduates 57 died before reaching the age of 45 years = $37\frac{3}{10}\%$.

TABLE VI.

Harvard 1860–1879.

Class.	No. of Graduates.	No. of Surviving Children.	Av. No. of Surviving Child'n per class member.	Av. No. of Surviving Child'n per married man.	Unmarried.	Married and no Children.	Members of class deceased.	Children deceased.	Members of Class more than Once Married.
1860	110	170	1.54	——	——	——	23?	37	——
*1861	81	141	1.74	2.71	34?	——	——	22	——
1862	96	133	1.38	2.60	35?	10	——	12	4 men marr'd twice
1863	†151	245	1.62	2.45	51	21	39	45	9 " " "
1864	99	140	1.41	1.86	24	22	21	30	9 " " "
1865	86	153	1.77	2.39	22	13	27	20	8 " " "
1866	112	196	1.75	2.20	23	15	25	41	11 " " " / 2 " " " 3 times
1867	95	158	1.55	2.23	24	9	32		——
1868	80	146	1.82	2.43	20	10	14	22	3 men marr'd twice
‡1869	111								——
1870	131	207	1.58	2.22	38	31	23	32	4 men marr'd twice
1871	158	208	1.32	2.18	53	12	40	23	4 " " "
1872	114	165	1.44	2.+	29	20	24	16	6 " " "
1873	131	187	1.42	1.85	34	60	23	16	5 " " "
1874	165	247	1.49	1.98	39	21	23	36	7 " " "
1875	133	172	1.29	1.84	40	22	30	24	2 " " "
1876	142	204	1.35	1.93	35	25	31	20	10 " " "
1877	195	291	1.49	2.10	37	25	34	34	5 " " "
1878	152	211	1.38	1.83	37	30	18	19	

*1861—22 members have no report.
†1863—151 includes temporary members of class.
‡1869—No complete record of this class.

TABLE VII.

Table showing size of families for Harvard Graduates 1658-1689.

Number of families 147.

18 men had families of				1 child	=	12.2	per cent.
17	"	"	"	2 children	=	11.5	"
14	"	"	"	9 "	=	9.5	"
13	"	"	"	5 "	=	8.8	"
12	"	"	"	7 "	=	8.1	"
12	"	"	"	4 "	=	8.1	"
11	"	"	"	3 "	=	7.4	"
10	"	"	"	6 "	=	6.6	"
7	"	"	"	11 "	=	4.7	"
7	"	"	"	8 "	=	8.7	"
4	"	"	"	10 "	=	2.7	"
3	"	"	"	13 "	=	2	"
3	"	"	"	14 "	=	2	"
2	"	"	"	12 "	=	1.3	"
1 man had family			"	15 "	=	.6	"
1	"	"	"	20 "	=	.6	"

TABLE VIII.

Table showing size of families for Harvard graduates, 1860–1879.

1861–1872. Number of families 580. Number of children 1,792 Average children per man 3.09.

139	men	had	families	of	2	children	= 22.4	per cent.
222	"	"	"	"	3	"	= 21.	"
112	"	"	"	"	1	child	= 19.2	"
98	"	"	"	"	4	children	= 16.8	"
60	"	"	"	"	5	"	= 10.3	"
28	"	"	"	"	6	"	= 4.8	"
9	"	"	"	"	7	"	= 1.5	"
5	"	"	"	"	8	"	= .8	"
6	"	"	"	"	9	"	= 1	"
2	"	"	"	"	10	"	= .3	"

1872–1879. Number of families 581. Number of children 1,612. Average children per man 2.77.

165	men	had	families	of	2	children	= 27.8	per cent.
127	"	"	"	"	1	child	= 21.8	"
127	"	"	"	"	3	children	= 21.8	"
88	"	"	"	"	4	"	= 15.1	"
32	"	"	"	"	5	"	= 5.5	"
27	"	"	"	"	6	"	= 4.8	"
10	"	"	"	"	7	"	= 1.7	"
4	"	"	"	"	8	"	= .6	"
1	man	had	family	"	9	"	= .17	"

Omitting fractions and arranging per cent. shows the change in distribution of families according to size for dates given.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	20	Families.
1658–1689.	12	11	7	8	8	6	8	8	9	2	4	1	2	2	$\frac{3}{5}$	$\frac{3}{5}$	Per cent.
1861–1872.	19	22	21	16	10	4	1	$\frac{4}{5}$	1	$\frac{3}{10}$	0	0	0	0	0	0	"
1872–1879.	21	27	21	15	5	4	1	$\frac{3}{5}$	$\frac{17}{100}$	0	0	0	0	0	0	0	"

TABLE IX. *Amherst.*

Class.	No. of members in class.	No. of children reported born in class.	Average number of children per member.	No. of fathers.	Average number of children per father.	No. of children born to fathers who lived 25 yrs. or more after graduation.	No. stated unmarried.	No. stated married and childless.	No. with no statement concerning marriage or children.	No. stated married. Children not stated.
1825	25	95	3.8	19	5.	84	5		1	
1826	30	81	2.7	25	3.24	59		2	1	2
1827	23	90	3.91	18	5.	90	1	3		1
1828	40	119	2.97	29	4.10	91		4	5	2
1829	41	145	3.53	32	4.53	109	1	3	3	2
1830	32	106	3.31	25	4.24	91	1	3	3	
1831	60	205	3.41	42	4.88	198	2	10	4	2
1832	38	110	2.89	24	4.58	99	5	7	1	1
1833	38	126	3.31	29	4.34	92	4	4	1	
1834	39	142	3.64	33	4.30	128	4	2		
1835	40	142	3.55	32	4.30	130	5	3		
1836	38	121	3.18	28	4.32	114	6	4		
1837	53	224	4.24	44	5.08	191	2	6	1	
1838	42	110	2.61	32	3.43	97	3	4	3	
1839	57	142	2.49	41	3.46	134	9	6	1	
1840	44	141	3.20	31	4.54	134	9	1	2	1
1841	32	100	3.12	22	4.54	99	6	2	1	1
1842	28	81	2.89	19	4.26	80	1	2	3	3
1843	21	56	2.66	14	5.	53	1	5		1
1844	30	53	1.76	15	3.53	52	7	4	2	2
1845	30	104	3.46	23	4.52	100	4	1	1	1
1846	26	59	2.26	18	3.27	43	4	1	3	
1847	18	42	2.33	13	3.23	34	1	2	2	
1848	30	93	3.1	23	4.04	85	3	2		2
1849	36	95	2.63	27	3.51	91	5	2	1	1
1850	25	57	2.28	15	3.8	52	4	3	3	
1851	41	142	3.46	30	4.73	133	6	2	1	2
1872	48	88	1.83	26	3.38	86	7	6	3	6
1873	54	92	1.70	32	2.87	88	3	2	10	7
1874	66	90	1.36	33	2.72	80	10	6	9	5
1875	49	87	1.77	30	2.9	69	5	5	3	6
1876	68	111	1.63	38	2.92	104	5	5	9	11
1877	74	108	1.45	45	2.4	102	5	4	7	13
1878	81	109	1.34	45	2.42	99	9	1	11	15

TABLE X.

Table showing size of families for Amherst graduates 1825 to 1852 and 1872 to 1879.

1825 to 1852. Number of families 703.

120	men	had	families	of	2	children	= 16.9	per cent.
116	"	"	"	"	4	"	= 15.06	"
109	"	"	"	"		"	= 15.05	"
94	"	"	"	"	5	"	= 13.3	"
77	"	"	"	"	1	child	= 10.9	"
68	"	"	"	"	6	children	= 9.6	"
46	"	"	"	"	7	"	= 6.4	"
26	"	"	"	"	8	"	= 3.6	"
20	"	"	"	"	9	"	= 2.8	"
12	"	"	"	"	10	"	= 1.7	"
9	"	"	"	"	11	"	= 1.2	"
4	"	"	"	"	12	"	= .5	"
1	man	had	family	"	13	"	= .09	"
1	"	"	"	"	14	"	= .09	"
1	"	"	"	"	16	"	= .09	"

1872 to 1879. Number of families 241.

68	men	had	families	of	1	child	= 28.1	"
64	"	"	"	"	2	children	= 26.1	"
46	"	"	"	"	3	"	= 19.08	"
32	"	"	"	"	4	"	= 13.1	"
23	"	"	"	"	5	"	= 19.08	"
8	"	"	"	"	6	"	= 3.3	"
5	"	"	"	"	7	"	= 2.07	"
2	"	"	"	"	8	"	= .08	"
1	man	had	family	of	9	"	= .04	"

TABLE XI.

Class.	No. of Mem. in Class no matter how long they lived.	Av. Number of Children per Member.	No. of Fathers.	Av. Number of Children per Father.	Unmarried.	TotalChildren.	Living Sons 1902.	
1861	52	2.19	—	—	—	113	51	
1862	42	1.45	—	—	—	61	26	
1863	41	1.58	—	—	—	66	27	
1864	33	1.81	—	—	—	60	21	
1865	21	1.85	—	—	—	40	9	
1866	24	1.08	—	—	—	26	15	
1867	25	1.08	—	—	—	27	15	
1868*	23	1.04	—	—	—	22	13	
1869*	32	1.03	—	—	—	33	15	
1870*	30	1.40	—	—	—	42	21	
1871*	19	1.05	—	—	—	20	8	
1872*	23	1.08	—	—	—	25	16	
1873*	35	1.02	—	—	—	34	25	
1874	38	1.00	—	—	—	38	18	
1875	45	1.44	—	—	—	64	35	
1876	43	1.27	—	—	—	55	29	
1877	45	1.57	—	—	—	71	28	
						797	372	425 girls.

*Number of children probably underestimated.

TABLE XII.

Middlebury College.

Class.	No. of Graduates.	No. of Surviving Children.	Av. Number of Surviving Children per Class Member.	Av. Number of Surviving Children per Married Man.	Unmarried.	Children Dead.	Members of Class more than Once Married.
1844	3	5	1.66	2.50	1	—	———
1845	6	11	1.83	1.83	0	—	2 married twice
1846	8	16	2.	2.66	2	—	1 married twice 1 married 3 times
1847	13	49	3.76	4.08	1	—	2 married twice
1848	9	29	3.22	3.62	1	—	———
1849	5	19	3.8	3.8	0	—	———
1850	7	15	2.14	2.5	1	—	———
1851	10	26	2.6	2.88	1	10	2 married twice
1852	9	23	2.55	2.55	0	2	1 married twice
1853	11	27	2.45	2.45	0	12	1 married twice 2 married 3 times
1854	8	25	3.12	3.12	0	4	1 married twice
1855	4	10	2.5	3.33	1	—	2 married twice
1856	9	11	1.22	1.22	0	1	3 married twice
1857	16	34	2.12	2.26	1	7	4 married twice
1858	13	19	1.46	1.58	1	5	2 married twice
1859	6	13	2.2	2.6	1	3	3 married twice
1860	18	43	2.52	2.68	1	11	2 married twice
1861	13	39	3.	3.	0	3	2 married twice
1862	6	12	2.	2.	0	—	2 married twice
1863	9	28	3.11	3.11	0	2	4 married twice
1864	10	28	2.8	3.11	1	5	1 married twice
1865	7	16	1.42	1.42	0	—	———
1866	11	29	2.63	2.63	0	2	2 married twice
1867	6	16	2.66	3.2	1	—	1 married twice
1868	15	24	1.6	2.	3	2	———
1869	13	25	1.82	1.82	0	2	2 married twice
1870	16	22	2.	2.5	2	2	2 married twice
1871	15	22	1.46	1.57	1	3	3 married twice
1872	7	17	2.42	2.83	2	—	———
1873	7	7	1.	1.	0	—	1 married twice
1874	11	11	1.	1.57	5	1	———
1875	6	11	1.83	2.2	1	1	———
1876	14	27	1.92	2.45	3	1	1 married twice
1877	9	11	1.22	1.37	2	1	———
1878	7	6	.86	.86	0	2	———

TABLE XIII. *Wesleyan University.*

Class.	No. of Graduates.	No. of Children Living 1901.	Av. Number of Living Children per Class Member.	Av. Number of Living Children per Married.	Children who Died before Maturity.	Members of Class Unmarried.	Members of Class Living 1901.	Members of Class who Married more than Once.
1833	6	16	2.66	4.	4	2	1	———
1834	8	16	2.	2.66	6	2	—	———
1835	13	25	1.92	2.27	19	2	2	2 married 2 times
1836	16	47	2.93	3.91	24	4	2	1 " 3 " 2 " 2 "
1837	15	47	3.13	3.91	26	3	1	1 " 3 " 2 " 2 "
1838	31	75	2.41	2.77	33	4	2	5 " 2 " 1 " 3 "
1839	26	56	2.15	2.43	27	3	6	3 " 2 "
1840	27	68	2.51	2.95	32	4	3	4 " 2 " 1 " 4 "
1841	33	81	2.45	2.89	23	5	4	8 " 2 " 1 " 3 "
1842	39	71	1.82	2.44	25	10	5	1 " 4 " 3 " 2 "
1843	17	24	1.41	2.	5	5	4	2 " 2 "
1844	20	37	1.85	1.94	15	1	6	4 " 2 "
1845	20	50	2.5	2.94	17	3	5	5 " 2 " 1 " 3 "
1846	35	59	1.68	2.03	25	6	6	4 " 2 "
1847	23	49	2.13	2.45	32	3	12	5 " 2 " 1 " 3 "
1848	25	58	2.32	2.76	22	4	4	1 " 2 "
1849	33	62	1.87	2.58	26	9	7	7 " 2 " 1 " 3 "
1850	19	41	2.15	2.41	17	2	10	5 " 2 "
1851	23	39	1.69	2.85	10	2	3	5 " 2 "
1852	23	60	2.73	3	15	3	8	7 " 2 "
1853	22	55	2.5	3.88	15	4	9	3 " 2 "
1854	29	69	2.37	2.46	21	1	12	1 " 2 " 1 " 3 "
1855	29	67	2.31	2.79	8	5	15	5 " 2 "
1856	17	47	2.76	2.93	17	1	11	———
1857	30	57	1.9	2.11	15	3	16	1 married 3 times 5 " 2 "
1858	28	60	2.15	2.4	20	3	14	4 " 2 "
1859	36	92	2.55	2.87	23	4	22	3 " 1 "
1860	39	91	2.33	2.45	20	2	24	5 " 2 " 2 " 3 "
1861	26	54	2.07	2.45	17	4	15	3 " 2 "
1862	19	30	1.57	1.87	10	3	10	———
1863	39	85	2.18	2.42	23	4	30	6 married 2 times
1864	23	48	2.08	2.28	13	2	16	1 " 3 " 3 " 2 "
1865	35	67	1.91	2.16	13	4	26	3 " 2 "
1866	16	22	1.37	1.37	7	0	9	1 " 2 "
1867	17	38	2.23	2.71	8	3	13	1 " 2 "
1868	23	44	1.47	2.31	8	4	22	2 " 2 "
1869	27	63	2.33	2.42	10	1	20	4 " 2 "
1870	28	69	2.46	2.09	7	5	31	5 " 2 " 1 " 3 "

TABLE XIV.

Harvard.

	No. of Graduates having Reports.	Number of Children who Lived.	Av. Number of Children per Graduate.	Av. Number of Children per Married Man.	Av. Number of Children per Married Woman.	Unmarried.
1658–1668	64	203	3.17	3.44	2.98	5
1668–1680	48	187	3.89	4.45	2.92	6
1680–1690	56	246	4.39	4.64	3.46	3
1860–1869	910	1482	1.62	2.22	2.07	243 = 26.7%
1870–1879	1321	1892	1.43	1.95	1.85	342 = 26.5%

Yale.

	No. of Graduates.	No. of Living Children.	Av. Number of Children per Graduate.	Av. Number of Children per Married Man.	Av. Number of Children per Married Woman.	Unmarried.
1705–1715	44	217	4.93	5.16	3.87	3
1715–1725	88	401	4.55	4.77	3.89	4
1725–1735	155	597	3.85	4.17	3.26	12
1735–1745	189	823	4.35	4.72	3.42	15
1745–1755	212	810	3.82	4.09	3.33	14
1755–1765	292	1111	3.80	4.04	3.40	17
1810–1841	371	1534	3.43	4.13		76 = 17%
1841–1861	838	2245	2.67	3.33		167 = 20%
1861–1879	1104	2204	1.99	2.55		238 = 21.6%
1872–1878	704	914	1.27	1.96	1.70	188 = 25.2%

Amherst.

	No. of Graduates.	No. of Living Children.	Av. Number of Children per Graduate.	Av. Number of Children per Married Man.		Unmarried.
1825–1835	365	1219	3.33	3.56		23
1835–1845	345	1170	3.56	3.95		49
1845–1852	206	592	2.87	3.30		27
1872–1879	440	685	1.55	1.72		44

TABLE XIV continued. *Wesleyan.*

	No. of Graduates.	Number of Children who Lived.	Av. Number of Children per Graduate.	Av. Number of Children per Married.	Unmarried.
1833–1843	214	502	2.34	2.86	39
1843–1853	238	479	2.01	2.39	38
1853–1863	275	622	2.26	2.53	30
1863–1870	208	436	2.09	2.31	20

Middlebury.

	No. of Graduates.	Number of Children who Lived.	Av. Number of Children per Graduate.	Av. Number of Children per Married.	Unmarried.
1844–1854	81	220	2.71	2.97	7
1854–1864	102	234	2.29	2.41	5
1864–1874	101	200	1.98	2.19	10
1874–1879	47	66	1.40	1.60	6

Bowdoin.

	No. of Graduates.	Number of Children.	Av. Number of Children per Class Member.		Unmarried.
1861–1871	342	490	1.43		No data
1871–1877	248	307	1.23		" "

TABLE XV. *Brown University.*

Class.	No. of Graduates.	No. of Graduates Living.	No. of Living Children.	Children Dead.	Av. Number of Children per Class Member.	Av. Number of Children per Married.	Unmarried.	Remarks.
1872	—	44	106 TOTAL CHIL.	9	2.4	—	—	Taken from report of '97.
1874	45	32	72	—	1.6	2.25	13	
1875	40	30	64	10	1.6	1.88	6	Two members who are married have no children.
1876	50	—	103		2.06	2.39	7	

TABLE XV, continued. *Dartmouth College.*

Class.	No. of Graduates.	No. of Graduates Living.	No. of Living Children.	Children dead.	Av. Number of Children per Class Member.	Av. Number of Children per Married.	Unmarried.	Remarks.
1867	38	27	73	14	1.92	2.28	6	5 married 2 times
1868	45	34	54	11	—	2.57	—	Only 21 members of this class were heard from and the average is based on the 54 children reported by 21 graduates.
1874	67	63	116	14	1.73	2	9	14 of this class who are married have no children.
1876			158	19				
1877	68	60	93	16	1.36	1.63	11	14 of this class who are married have no children. 4 are not reported.

Williams College.

Class.	No. of Graduates.	No. Married.	No. of Children born.	Children deceased.	Wives deceased	Members of Class deceased.	Date of report.
[1]1876	44?	30	58	4	7	0	1896
[2]1878	42	35	68	6	6	2	1903

[1] 6 members of this class married twice, and one three times. 9 are married and have no children.

[2] 2 members of this class married twice.

Turning now to colleges for girls the following data has been gathered. Every class secretary was written to and most have cheerfully sent data and have taken pains to make them as complete as possible. Whenever the secretary failed to respond or could not give the facts we have fallen back on the official records of the college. To all informants we hereby express our gratitude. If there are errors in the results they probaby represent slightly too few, rather than too many marriages, births and deaths. Of course, too, if graduates are given but a year or two to marry as appears in the Vassar bulletin, or if all classes down to any recent date are included, say even 1900, as is often done, marriages would be far fewer. In general, the longer the interval allowed up to ten or twenty years, the more marriages.

TABLE XVI. *Vassar College.*

Vassar. CLASS.	No. of Graduates.	No. Married.	No. of Mothers.	No. of Sons.	No. of Daughters.	Average No. of Children.	Unmarried.	No. who have Died.	No Report.	Those who have Taught.
1867	4	3		5	2	$2\frac{1}{3}$	1			3
1868	25	15	10	18	13	$3\frac{1}{10}$	10	7		14
1869	34	21	15	25	19	$2\frac{14}{15}$	12	6	1	14
1870	34	22	16	19	25	$2\frac{1}{6}$	12	3		11
1871	21	12	9	20	9	$3\frac{2}{3}$	9	6		9
1872	29	11	7	15	5	$2\frac{6}{7}$	16	3	2	12
1873	47	21	15	23	25	$3\frac{1}{5}$	19	8	7	18
1874	42	27	20	30	28	$2\frac{9}{10}$	12	10	3	15
1875	41	23	12	18	19	$3\frac{1}{2}$	17	12	1	18
1876	46	24	14	31	16	$3\frac{5}{14}$	20	7	2	16
1877	45	22	15	19	20	$2\frac{8}{15}$	21	6	2	17
1878	42	20	14	24	20	$3\frac{1}{7}$	22	3		21
1879	36	18	11	22	13	$3\frac{2}{11}$	17	4	1	19
1880	46	28	16	26	21	$2\frac{15}{16}$	17	4	1	17
1881	35	15	8	12	7	$2\frac{8}{8}$	20	4		13
1882	39	20	12	12	14	$2\frac{1}{6}$	18	3	1	15
1883	39	21	13	21	13	$2\frac{8}{13}$	18	4		17
1884	30	18	9	10	11	$2\frac{1}{3}$	12	4		12
1885	35	19	9	5	11	$1\frac{7}{9}$	13	1	3	12
1886	31	11	7	9	4	$1\frac{6}{7}$	19	5	1	13
1887	36	10	6	8	4	2	24	1	2	25
1888	36	19	10	12	6	$1\frac{4}{5}$	16	3	1	12
1889	49	18	13	16	14	$2\frac{4}{13}$	31	1		24
1890	46	19	12	8	14	$1\frac{5}{6}$	25	1	2	18
1891	36	13	7	4	5	$1\frac{2}{7}$	23			19
1892	54	21	9	4	5	1	28	2	5	26
1893	55	15	6	2	5	$1\frac{1}{6}$	38	3	2	28
1894	72	12	8	11	1	$1\frac{1}{2}$	58		2	42
1895	100	24	9	6	5	$1\frac{2}{9}$	73	3	3	51
1896	119	18	5	2	3	1	94	2	7	64
1897	105	13	6	5	1	1	88	1	4	53
1898	86	7	2	1	1	1	77		2	29
1899	117	2					111		4	33
1900	125									

Total Number of Graduates to 1893 (26 classes), 958.
Total Number Married to 1893 (26 classes), 471.
Average Number of Children per Marriage, 1.61+.
Average Number of Children per Mother, 2.62+.

Thus it appears that in Vassar College, during the first ten years ending with the class of 1876, there were 323 graduates, of whom in the spring of 1903, 179 were married, the married being 55.41 per cent. of the graduates. The total number of children born to these classes is 365 or 3.09 per mother, or

VASSAR BULLETINS.

Class of	Date of Bulletin.	Number Reporting.	Number Married.	At Home.	Teaching, Tutoring.	Studying P. & at Insti.	Travelling or Away.
1897	Nov., 1902	101	30	18	41	14	2
1898	Mar., 1902	64	13	19	19	4	2
1899	Feb., 1901	111	7	46	38	24	4
1900	Dec., 1902	114	12	56	33	9	3

2.03 per married member, 58 married members having no children.

In the next ten Vassar classes, ending with and including the class of 1886, there were 378 graduates, of whom 192 were married, the married being 50.79 per cent. of the graduates. The total number of children born to these classes is 294, or 2.57 per mother, or 1.53 per married member, 78 married members having no children.

In the third ten Vassar classes, ending with and including the class of 1896, there were 603 graduates, of whom 169 were married, the married being 28.02 per cent. of the graduates. The total number of children born to these classes is 135, or 1.58 per mother, or .79 per married member, 84 married members having no children.

In Smith College, during the first ten years ending with the class of 1888, there were 370 graduates, of whom in the spring of 1903, 158 were married, the married being 42.70 per cent. of the graduates. The class secretaries of these classes report the number of children born to the married members of their classes. The total number of these children is 315, or 2.08 per mother, or 1.99 per married member, 7 married members having no children. Of these children 26 had died.

In the next ten Smith classes, ending with and including the class of 1898, there were 1,130 graduates, of whom 331 were married, the married being 28.35 per cent. of the graduates. Of these classes six report the number of children born, which is 161, or 1.22 per mother, or .77 per married member, 78 married members having no children. Of these children 9 had died.

The data for those classes whose secretary is not named is derived from the report of Mrs. Elizabeth L. Clarke, Secretary of the Association of Collegiate Alumnæ, whose statistics are brought only to February, 1903.

TABLE XVII. *Smith College.*

Class.	Secretary.	No. of Graduates.	No. Married.	Married and no Children.	No. of Children Born to Graduates.	No. of Graduates Deceased.	No. of Children Deceased.
1879	Mrs. Kate M. Cone, May 18, 1903.	12	7	3	11	2	5
1880	Mrs. Netta W. Higbee, May 16, 1903.	9	5		6	0	1
1881	Mrs. Anna H. Washburn, May 30, 1903.	27	14		29		1
1882	Miss Sophie C. Clark,	40	13		36	7	4
1883	Miss C. C. Gulliver, Sept. 3, 1903.	48	20		56		6
1884	Miss Frances M. Tyler, May 21, 1903.	44	19		47	1	
1885	Miss Mabel Fletcher, May 20, 1903.	46	18	3	20	7	2
1886	Miss Mary Eastman, May 21, 1903.	49	27		40	3	2
1887	Miss Clara M. Reed, June 1, 1903.	40	11	1	25	0	1
1888	Miss Lelian Du Bois,	55	24		45	4	8
1889	Miss Lucy E. Allen, May 19, 1903.	50	20		28 or 30	1	2
1890		63	23			4	
1891		79	28			2	
1892	Miss Eliza W. M. Bridges, May 19, 1903.	88	25	4	39	2	2
1893	Miss A. N. Stevens,* Aug. 11, 1903.	108	39	8	21	2	
1894	Miss Edith A. Harkness, Sept. 14, 1903.	111	44	34	16		
1895	Miss Amey Aldrich,* Sept. 13, 1903.	155	41	16	31		4
1896		146	49			1	
1897	Miss N. Gertrude Dyar, May 22, 1903.	184	40	16	26		1
1898		146	22			1	
1899		192	29			2	
1900	Miss Eliza J. Goodsell, May 30, 1903.	223	20	16	4	2	0
1901		257	15	11	4		
1902		232	10			0	

*Secretary of 1893 does not know whether 15 of married graduates have children or not.
*Three did not reply as to children. Twenty of children born were boys.

TABLE XVIII. *Wellesley College.*

Class.	Secretary.	No. of Graduates.	No. Married.	Married and no Children.	No. of Children Born to Graduates.	No. of Graduates Deceased.	No. of Children Deceased.
1879	Mrs. Louise M. North, June 4, 1903.	18	8	1	11	1	0
1880	Mrs. Edwina S. Chadwick, June 12, 1903.	41	18	4	47		4
1881		23	10				
1882	Mrs. Helen K. Lake, July 2, 1903.	29	17	5	31		5
1883	Mrs. Emma S. Eaton, May 28, 1903.	51	33	7	56	8	8
1884		48	22				
1885	Miss Alice M. Allen, May 21, 1903.	46	19	5	27		3
1886	Miss Susan W. Peabody, June 10, 1903.	59	27	9	50		
1887	Mrs. Maryette G. Mackey, June 14, 1903.	61	21	5?	42		1
1888	Miss May E. Cook, June 2, 1903.	60	28	4	47		4
1889	Miss May Banta, June 22, 1903.	85	29	7	54		5
1890		110	31				
1891		112	30				
1892		113	33				
1893	Mrs. Mary P. St.John,* July 28, 1903.	108	44	10	54		5
1894		108	23				
1895	Miss Helen M. Kelsey, June 13, 1903.	118	38	18	31	1	
1896	Miss Mary A. Dartt, June 10, 1903.	118	29	14	20	3?	
1897	Mrs. Judith B. Ranck, Aug. 5. 1903.	146	29	15	17	2	1
1898		144	10				
1899	Miss Olive Rosencranz, June 14, 1903.	130	16		2		
1900	Miss Chloe Curtis, July 9, 1903.	133	20		6		
1901							
1902	Miss Florence N. Hastings, June 15, 1903.	150	2	2	0		

*Six of those married not heard from.

In Wellesley College, during the first ten years ending with the class of 1888, there were 436 graduates, of whom in the spring of 1903, 203 were married, the married being 46.55 per cent. of the graduates. The class secretaries of eight of these classes report the number of children born to the married

members of their classes. The total number of these children is 311, or 2.37 per mother, or 1.81 per married member, 40 married members having no children. Of these children 25 had died.

In the next ten Wellesley classes, ending with and including the class of 1898, there were 1,162 graduates, of whom 296 are married, the married being 25.47 per cent. of the graduates. Of these classes, five report the number of children born, which is 176, or 1.67 per mother, or 1.04 per married member, 64 married members having no children. Of these children 11 had died.

The data for those classes whose secretary is not named is derived from the official report, which accounts for 1,851 graduates, of whom 455 or 24.58 per cent. are married.

Of all the view points of this many facetted question, that presented above, of the rotation of social classes, is a very important one. It is possible to regard college graduates as representing the advanced guard of culture and progress, bearing the chief burden of advance, and the more of them that fall in the front line of battle, making room for others to take their place, the harder and more costly does progress become. In the past the religious world thought it wise to set apart selected classes as monks and nuns *ad majorem gloriam dei*, as if the good they did by devoting themselves to a life of service more than compensated the loss entailed by the sterility of the best individuals. To give to mankind what was meant for wife, husband, and children is often a noble idea, and no doubt is illustrated by many individuals. In the ideal community it may be necessary that many of the best should give all that is in them, as well as life itself, to storming the ever steeper heights of attainment and making way for the masses below them.

No one would claim, however, that this accounts for the progressive infertility of the growing agenic and agamic classes in our communities to-day. This tendency is illustrated not only in most aristocrats of the world, past and present, whether those of wealth or learning, but also in the middle classes who, in our democratic age, are struggling up to something better. It is characteristic of the native stock in New England and is favored by growing urban life and by all those influences which demand an ever increasing length of time for apprenticeship to life as civilization grows more complex. As a class, the rich no doubt illustrate it as much as or more than college graduates. It is probably increased by luxury. To take President Eliot's figures for the Harvard classes of 1872-77 from which he finds twenty-eight per cent., mostly now between forty and fifty years of age, unmarried and those married not reproducing themselves (although our figures show that his are

too unfavorable), the facts are bad enough. His data were gathered and published in the interest of a special plea for shortening the college course. This is not only a limited point of view but it is, at least, an open question whether the facts do not point to the opposite conclusion, viz.: toward at least maintaining if not prolonging the period of apprenticeship to life. The three years' course, if it means three-quarters of the preparation now needed, might have the effect of a still greater handicap and therefore delay in attaining competence to support a family.

Again selfishness is no doubt, to say the very least, as large a factor here as altruism. To give our youth $10,000 tastes and aspirations on $1,000 incomes tends to delay or repress the desire for families in the earlier years of maturity. The ambition to start anywhere near the present level of their parents or their more favored academic colleagues, is even bad economy from the standpoint of races, because the best years for genesis are lost during the struggle for individual possession and income. It is a moderate assumption that there is a general concensus that the average man should be married at thirty and the woman at twenty-five. Of old this was felt to be a religious duty and was both urged and practiced as such. While bachelors were not taxed progressively beyond a certain age, as some now urge should be done, it was felt that a real obligation was avoided by those who shirked marriage and children without adequate and sufficient reason. In the best period of the best races, too, there has been a wholesome sentiment that both wedlock and childhood were needed for the full maturity of the individual, and that if this stage of development were not attained, the moral, mental, and physical nature was liable to warp or check.

I. Galton has shown us by convincing figures that if a woman is not married before twenty-eight and the man a few years later, even the most fertile races are doomed to extinction, because there are not enough children born after this age to keep up the population. Here we enter upon a maze of biological and social principles which it is perhaps now impossible to entirely disentangle so as to give each its due place and value.

II. Unless we insist on extreme Weismannism, as few biologists now do, we must admit that the child born of generations of cultured ancestry has some advantage, even though these do not live to see their birth, over those born of the lowest classes, postnatal environment and nurture being the same in the two cases. If this be so, each generation ought to add a little, infinitesimal though it be, to progress in that most ancient form of wealth and worth which birth bestows. If the old phrase that an ounce of heredity is worth a ton of

education have any truth in it, rotation of classes, while it may have many advantages, is thus bought at a very dear price.

III. Another principle involved, suggested by the statistics of natality and by biological considerations, is that, while children born of parents slightly immature are liable to remain undeveloped or, at least, have peculiar difficulties in coming to full maturity of powers of mind and body, those born of parents in slightly post-mature years tend more or less to precocity. This principle the writer gathers from studies in this field to be highly probable if not established.

IV. Closely connected with this is a principle brought out with ominous suggestiveness by child study, viz., that only children, and to some extent, offspring limited to a pair of children, tend to be feeble and need special care.

V. Another general consideration also pertinent in this discussion is, that the children of the rich tend to be prematurely or over individualized and those of the poor to be under individualized, even where the age of parenthood remains the same.

VI. Not only are families produced by parents who marry late, small; but another consideration, often overlooked in this discussion, is that they are still more outbred by those who marry young, because, while the latter have four or sometimes even five generations per century, the former have perhaps three or even less. This reduces still more the ratio of increase.

VII. Yet another principle which seems to follow from the above is that if the children of post-mature parents mature early, such children themselves, if they marry, should do so earlier than those who mature late, hence, if they marry at the same age at which their parents did, they are biologically and psychologically older when they do so than were their parents, so that the evils of post-mature fertility increase even if the age of marriage remains the same in successive generations.

VIII. One test of the complete domestication of an animal species is not only that it tends to grow larger than its wild congeners but to breed well. This, too, is a test of the possibility of permanent captivity. Now if we consider civilization as the domestication of man by himself, with which it has many analogies, we may apply this criterion as an effective test of the soundness of a civilization itself. This principle, too, would seem to apply to any trade or industry, or to any social class, or to the educated classes. If this be so it would seem to follow either that education is *per se* bad when considered from a large racial point or else that a postulate is laid upon us to find, as the right way of education, one which shall not tend to sterility. Otherwise, if higher education became universal,

posterity would gradually be eliminated and the race progressively exterminated.

With these ideas in view a peculiar pathos attaches to those who early in life have not wanted children, but do so when it begins to be a little too late. Many such parents console and perhaps deceive themselves with the principle *unus sed leo* and lavish upon the one or two that perpetuate their enfeebled existence, care enough for half a dozen children. The result of this is, that instead of broadening by retarding their development, their offspring are robbed of many elements of a proper childhood, pass rapidly over the developmental stages, and are hastened on to maturity by the excessive stimulus of too much adult environment and influence and too little wise neglect. They are infected too early with the insights and sometimes even the sentiments of early senescence and show all the mingled charm and sadness of precocity. Their life has the flavor of fruit that ripens before its time. The buds are picked open and the tree of knowledge blooms and bears its fruit before its time. These phenomena are not in the line of real progress, but it is such families, though not these alone, that manifest the phenomena of decline and perhaps extinction. It is certainly well for the race that the law of rotation of classes plows them under. A larger view is, however, that we must develop such a system of higher education as shall conserve youth and increase not only viability but natality, and not begin the sad process of elimination by interfering with the monthly function in the early teens during the critical years when a recent writer, M. Genet[1] proposes the extreme suggestion that one entire school year for boys at thirteen or fourteen, and girls a little younger, be set apart for no school work whatever, unless it be a slight review, to avoid brain strain that reduces the mammary function and power to nurse in girls as the first stages of sterility.

Not to pursue this subject further here it is probable that many of the causes for the facts set forth in this paper are very different, and some of them almost diametrically opposite in the two sexes. It is a comparatively easy matter to educate boys. They are less peculiarly responsive in mental tone to the physical and psychic environment, tend more strongly and early to special interests, and react more vigorously against the obnoxious elements of their surroundings. This is especially true in the higher education, and more so in proportion as the tendencies of the age are toward special and vocational training. Woman in every fiber of her soul and body is a more generic creature than man, nearer to the race,

[1] L'age scolaire, La Plata 1902, p. 94.

and demands more and more with advancing age an education that is essentially liberal and humanistic. This is progressively hard when the sexes differentiate in the higher grades. Moreover nature decrees that with advancing civilization the sexes shall not approximate but differentiate. Thus for women it is more necessary than for men to study their nature and needs and to base everything upon these. This is the great postulate which our educational institutions have too much and too long ignored. Before we solve it we shall probably be obliged to carry sex distinctions into every topic of the higher education. Now that woman has by general consent attained the right to the best that man has, she must seek a training that fits her own nature as well or better. So long as she strives to be manlike she will be inferior and a pinchbeck imitation, but she must develop a new sphere that shall be like the rich field of the cloth of gold for the best instincts of her nature.

Men and women differ in their dimensions, senses, tissues, organs, in their abilities, in crime and disease, and these differences, which science is now multiplying and emphasizing, increase with advancing civilization. In savagery women and men are more alike in their physical structure and in their occupations, but with real progress the sexes diverge and draw apart, and the diversities always present are multiplied and accentuated. Intersexual differences culminate during the sexual period. Little boys and girls play together, do the same things, in many respects have the same tastes, are unconscious of sex, and again in senescence there is re-approximation. Old men and women become more like each other and are again in a sense progressively sexless.

Divergence is most marked and sudden in the pubescent period—in the early teens. At this time, by almost world-wide consent, boys and girls separate for a period and lead their lives during this most critical period of inception, more or less apart, at least, for a few years, until the ferment of mind and body which results in maturity of functions then born and culminating in nubility, has done its work. The family and the home abundantly recognize this tendency. At twelve or fourteen brothers and sisters develop a life more independent of each other than before. Their home occupations differ as do their plays, games, tastes. History, anthropology, and sociology, as well as home life, abundantly illustrate this. This is normal and biological. What our schools and other institutions should do is to push normal sex distinctions to their uttermost and not obliterate them, to make boys more manly and girls more womanly. We should respect the law of sexual differences, and not forget that motherhood is a very different thing from fatherhood. Neither sex

should copy or set patterns to the other, but all parts should be played harmoniously and clearly in the great sex symphony.

I have here nothing to say against co-education in college, still less in University grades after the maturity which comes at eighteen or twenty has been achieved, but it is high time to ask ourselves whether the theory and practice of identical co-education, especially in the High School, which has lately been carried to a greater extreme in this country than the rest of the world recognizes, has not brought certain grave dangers, some of which are seen in these tables, and whether it does not interfere with the natural differentiations everywhere seen in home and society. I recognize, of course, the great argument of economy. Indeed we should save money and effort could we unite churches of not too diverse creeds. We could thus give better preaching, music, improve the edifice, etc. I am by no means ready to advocate the abolition of co-education, but we can already sum up in a rough, brief, way our account of profit and loss with it. On the one hand no doubt each sex develops some of its own best qualities best in the presence of the other, but the question still remains, how much, when, and in what way, identical co-education secures this end?

Girls and boys are often interested in different aspects of the same topic and this may have a tendency to broaden the viewpoint of both and bring it into sympathy with that of the other, but the question still remains whether one be not too much attracted to the sphere of the other. No doubt some girls become a little less gushy and sentimental, their conduct more thoughtful and their sense of responsibility greater, for one of woman's great functions, which is that of bestowing praise aright, is increased. There is also much evidence that certain boys' vices are mitigated; they are made more urbane and their thoughts of sex made more healthful. In some respects boys are stimulated to good scholarship by girls, who in many schools and topics excel them. We should ask, however, what is nature's way at this stage of life? Whether boys in order to be well virified later ought not to be so boisterous and even rough as to be at times unfit companions for girls; or whether on the other hand girls to be best matured ought not to have their sentimental periods of instability, especially when we venture to raise the question, whether for a girl in the early teens, when her health for her whole life depends upon normalizing the lunar month, there is not something unhygienic, unnatural, not to say a little monstrous, in school associations with boys when she must suppress and conceal her feelings and instinctive promptings at those times which suggest withdrawing, stepping aside to let Nature do its beautiful, magnificent work of inflorescence. It is a sacred time of reverent

exemption from the hard struggle of existence in the world and from mental effort in the school. Medical specialists, many of the best of whom now insist that through this period she should be as it were "turned out to grass" or should lie fallow so far as intellectual efforts go one-fourth the time, no doubt often go too far, but their unanimous voice should not entirely be disregarded.

It is not this, however, that I have chiefly in mind here, but of the effects of too familiar relations and, especially, of the identical work, treatment and environment of the modern school.

We have now at least eight good and independent statistical studies which show that the ideals of boys from ten years on are almost always those of their own sex, while girls' ideals are increasingly of the opposite sex, or also those of men. That the ideals of pubescent girls are not found in the great and noble women of the world or in their literature, but more and more in men, suggests a divorce between the ideals adopted and the line of life best suited to the interests of the race. We are not furnished in our public schools with adequate womanly ideals in history or literature. The new love of freedom and fame, which women have lately felt, has produced a reaction toward the other extreme, which inclines girls to abandon the home for the office. "It surely can hardly be called an ideal education for women that permits eighteen out of one hundred college girls to state boldly that they would rather be men than women." More than one-half of the school girls in these censuses choose male ideals as if those of femininity are disintegrating. A recent writer[1] in view of this fact states that "unless there is a change of trend we shall soon have a female sex without a female character." In the progressive numerical feminization of our schools most teachers, perhaps naturally and necessarily have more or less masculine ideals, and this does not encourage the development of those that constitute the glory of womanhood. "At every age from eight to sixteen girls named from three to twenty more ideals than boys." These facts indicate a condition of diffused interests and lack of clear-cut purposes and need of integration."

When we turn to boys the case is different. In most public high schools girls preponderate, especially in the upper classes, and in many of them the boys that remain are practically in a girls' school, sometimes taught chiefly, if not solely, by women teachers at an age when strong men should be in control more than at any other period of life. Boys need

[1]The Evolution of Ideals. W. G. Chambers, *Ped. Sem.*, March, 1903, p. 101, *et. seq.*

a different discipline and moral regimen and atmosphere. They also need a different method of work. Girls excel them in learning and memorization, accepting studies upon suggestion or authority, but are often quite at sea when set to make tests and experiments that give individuality, and a chance for self-expression, which is one of the best things in boyhood. Girls preponderate in our overgrown high school latin and algebra, because custom and tradition and, perhaps, advice incline them to it. They preponderate in English and history classes more often, let us hope, from inner inclination. The boy sooner grows restless in a curriculum where form takes precedence over content. He revolts at much method with meager matter. He craves utility and when all these instincts are denied, without knowing what is the matter, he drops out of school, when with robust tone and with a truly boy life, such as prevails at Harrow, Eton and Rugby, he would have fought it through and have done well. This feminization of the school spirit, discipline and personnel, is bad for boys. Of course, on the whole, perhaps, they are made more gentlemanly, at ease, their manners improved, and all this to a woman teacher seems excellent, but something is the matter with the boy in early teens who can be truly called "a perfect gentleman." That should come later when the brute and animal element have had opportunity to work themselves off in a healthful normal way. They still have football to themselves and are the majority perhaps in chemistry, and sometimes in physics, but there is danger of a settled eviration. The segregation, which even some of our schools are now attempting, is always in some degree necessary for full and complete development. Just as the boys' language is apt to creep in and to roughen that of the girl, so girls' interests, ways, standards and tastes, which are crude at this age, sometimes attract boys out of their orbit. While some differences are emphasized by contact, others are compromised. Boys tend to grow content with mechanical, memorized work and excelling on the lines of girls' qualities, fail to develop those of their own. There is a little charm and bloom rubbed off the ideal of girlhood by close contact, and boyhood seems less ideal to girls at close range. In place of the mystic attraction of the other sex that has inspired so much that is best in the world, familiar comraderie brings a little disenchantment. The impulse to be at one's best in the presence of the other sex grows lax and sex tension remits, and each comes to feel itself seen through, so that there is less motive to indulge in the ideal conduct which such motives inspire, because the call for it is incessant. This disillusioning weakens the motivation to marriage sometimes on both sides, when girls grow careless in their dress and too

negligent in their manners, one of the best school of woman's morals, and when boys lose all restraints, which the presence of girls usually enforces, there is a subtle deterioration. Thus, I believe, although of course it is impossible to prove, that this is one of the factors of a decreasing percentage of marriage among educated young men and women.

At eighteen or twenty the girl normally reaches a stage of first maturity when her ideas of life are amazingly keen and true; when, if her body is developed, she can endure a great deal; when she is nearest, perhaps, the ideal of feminine beauty and perfection. We have lately in this country and Europe had a dozen books of a more or less naïve or else confessional character written by girls of this age, which show the first glorious inflorescence of womanly genius and power. In our environment, however, there is a little danger that this age once well past there will slowly arise a slight sense of aimlessness or lassitude, unrest, uneasiness, as if one were almost unconsciously feeling along the wall for a door to which the key was not at hand. Thus some lose their bloom and yielding to the great danger of young womanhood slowly lapse to an anxious state of expectancy or they desire something not within their reach, and so the diathesis of anxiety and restlessness slowly supervenes. The best thing about college life for girls is, perhaps, that it postpones this incipient disappointment, but it is a little pathetic to me to read, as I have lately done, the class letters of hundreds of girl graduates, out of college one, two or three years, turning a little to art, music, travel, teaching, charity work, or trying to find something to which they can devote themselves, some cause, movement, occupation, where their glorious capacity for altruism and self sacrifice can find a field. The tension is almost imperceptible, perhaps quite unconscious. It is everywhere overborne by a keen interest in life, by a desire to know the world at first hand, while susceptibilities are at their height. The apple of intelligence has been plucked at perhaps a little too great cost of health. The purely mental has not been quite sufficiently kept back. She wishes to know a good deal more of the world and perfect her own personality, and would not marry, although every cell of her body and every unconscious impulse points to just that end. Soon, it may be in five or ten years or more, the complexion of ill health is seen in these notes, or else life has been adjusted to independence and self support. Many of these bachelor women are magnificent in mind and body, but they lack wifehood and yet more—motherhood.

In fine we should use these facts as a stimulus to ask more searchingly the question whether the present system of higher education for both sexes is not lacking in some very essential

elements and if so what these are. Although the marriage rates are higher for men than for women graduates the disparity is far less than was supposed. Indeed, considering the facts that in our social system man makes the advances and that woman is by nature more prone than man to domesticity and parenthood, it is not impossible that men's colleges do more to unfit for these than do those for women. One cause may be moral. Ethics used to be taught as a practical power for life and re-enforced by religious motives. Now it is theoretical and speculative and too often led captive by metaphysical and epistemological speculations. Sometimes girls work or worry more over studies and ideals than is good for their constitution, and boys grow idle and indifferent, and this proverbially tends to bad habits. Perhaps fitting for college has been too hard at the critical age of about eighteen, and requirements of honest, persevering, work during college years too little enforced, or grown irksome by physiological reaction of lassitude from the strain of fitting and entering. Again, girls mature earlier than boys, and the latter who have been educated with them tend to certain elements of maturity and completeness too early in life, and their growth period is shortened or its momentum lessened by an atmosphere of femininity. Something is clearly wrong, and more so here than we have at present any reason to think is the case among the academic male or female youth of other lands. To see and admit that there is an evil very real, deep, exceedingly difficult and complex in its causes, but grave and demanding a careful reconsideration of current educational ideas and practices is the first step, and this every thoughtful and well informed mind I believe must now take.

CURIOSITY AND INTEREST.[1]

By G. Stanley Hall and Theodate L. Smith.

This study was made with aid given by the Carnegie Institute.

In the study of the emotions as compared with other activities of the soul, psychology has as yet made little progress. In the older works of the Scotch school and in the Herbartian literature we find elaborate systems of classifying emotions, but of the study of the living emotions in their genesis, development and relation to other psychic factors, little or nothing. Since the publication of the theories of Lange and James, in 1890, we have had abundant discussion of the theories of emotion and some excellent introspective work, especially upon those emotions which have the greatest bodily resonance. In the study of the expression of emotion, Darwin stands almost alone. Experimentally, there have been since 1880 various attempts to study the emotions by observation of changes in blood pressure and circulation. The work of Mosso stands foremost in this field, but the[2] plethysmograph has not yet added greatly to our knowledge here. A few monographs on special emotions have been published during the last decade, and there is a considerable body of literature on the pathology of the emotions, but the field to be investigated is wide, and as yet the laborers have been few.

In studying the development of the mental attitude which we call curiosity, we are confronted by difficulties of both definition and analysis. In its fully developed form it is sufficiently easy of recognition, but to determine where and when reflex activities become merged into psychic reactions, which may properly be termed stages in the development of curiosity involves us, at once, in the intricacies of the problems of active and passive attention and the development of the will.

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[1] Acknowledgment is due to Miss Lillie A. Williams, New Jersey State Normal School, who furnished the greater part of the material used in this study, and to whom the authors gratefully acknowledge their indebtedness.

[2] For summary of plethysmographic studies previous to 1896 see T. E. Shields, Journal of Experimental Med., Vol. I, p. 1, 1896.

The material for the present study was gathered partly in reply to a group of topics contained in a syllabus on "Some Common Traits and Habits," issued in 1895, and partly by a supplementary syllabus of the present year. The data asked for was as follows:

Curiosity, wonders. Prying, spying, inquiring, asking why, what for, or how, persisting in troublesome questions. Describe the first sign of curiosity or wonder in the infant; sample the growth of the instinct by instances up toward maturity, whether manifested toward natural phenomena facts or persons seen, or read of, mechanisms, motives, religious teaching, treatment by parents and teachers, etc. Cases of breaking open toys to see what is inside, or experimenting "to see what it will do." Later promptings to see the world, know life, travel, read, explore, investigate, etc. What excites chief wonder. Secrecy as a provocative of curiosity. Age of culmination of the chief classes of interest. Utilization and dangers.

Curiosity and Interest. I. Give cases of early curiosity or interest shown by infants. State in detail how this was manifested.

II. Give cases of interest or curiosity in children, shown by active observation or experiment.

III. Give instances of destructive curiosity; toys, etc., destroyed to find out how they were made.

IV. Give cases of interest or curiosity shown by asking questions.

Give instances of strong desire to travel. Did the interest in these cases extend to reading books of travel, etc.?

Total number of cases of curiosity, 1,227. These were distributed as follows:

I. Observation.			
a Early stages of staring,	163 cases.		
b Active observation,	108 "		
	271 "	=	22.08 per cent.
II. Experiments,	78 "		6.35 "
III. Questions,	477 "		38.79 "
IV. Inquisitiveness,	69 "		5.62 "
V. Destructive curiosity,	332 "		27.08 "
	1,227		

To these were added the material furnished by the individual child biographies and records kept by mothers. Helen Keller's "Story of My Life," has also furnished some valuable material, and a few facts for comparison have been gleaned from animal psychology. All the material collected is readily classified into the groups given above, with the addition of a group, which for convenience has been called inquisitiveness, and includes the various forms of aimless and misdirected curiosity, peeking, prying, etc.

Ribot distinguishes three stages of curiosity or primitive craving for knowledge, surprise, wonder and curiosity; the first consisting of mere shock, a disadaptation. The second stage or wonder is distinguished from the first, in that, while surprise is

momentary and fleeting, wonder is stable, and may persist until worn away by familiarity. The third stage or attitude of investigation is that of curiosity proper. But there are indications that a fourth stage, preceding these three, should be recognized in the pyschic accompaniment of some early reflexes. Preyer records this first stage of Ribot's as occurring in the fifth week, Mrs. Moore on the 26th day; Mrs. Hall notes it in the fifth week, and Miss Shinn on the 25th day. It is in each case a light reaction, the first active looking as compared with passive staring and is described as accompanied by a "dim rudimentary eagerness." But Miss Shinn also records that at about the end of the second week "the baby's gaze no longer wandered altogether helplessly, but rested with a long, contented gaze on bright surfaces which it happened to encounter. It was not active looking with any power to direct the eyes, but mere staring." In the material collected for this present study, 163 cases of this infant staring are reported, nearly one-half of which occurred under the age of three months. The earlier ones are all of the same type. Some bright or moving object seems to catch and hold the baby's gaze. There is no turning towards the object, no active looking, the eyes in their wandering unco-ordinated momements are simply arrested, and, in many instances, it is stated that there is a "contented" or "pleased" look on the baby's face. Light and darkness are distinguished, and moderate light appears to be for normal children a pleasurable sensation. Prof. Sully[1] suggests in regard to this first passive staring that "it is conceivable that the eyes happening to be co-ordinated opposite some patch of brightness might maintain this attitude under the stimulus of pleasure." Out of the dim, confused, mass of light and shade, something, probably a mere patch of brightness, has detached itself, and the physical mechanism of attention is called into play, a mere reflex, but a reflex whose psychic affective accompaniment, though rudimentary, has in it the germ of future development; the first movement of that intellectual craving which, more than any other endowment, differentiates one man from another in intellectual ability. In this connection a paragraph of Miss Shinn's is so significant that it is here quoted: "It is an important moment that marks the beginning of even a passive power to control the movement of the eyes, and when my grandmother handed down the rule that you should never needlessly interrupt a baby's staring lest you hinder the development of power of attention, she seems to have been psychologically sound."

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[1]Sully: Extracts from a Father's Diary in Studies of Childhood, p. 461.

It is now a recognized principle in the education of defective and feeble-minded children that the training of the motor apparatus of attention is the first and fundamental requisite for reaching the dormant psychic activities. Until a certain degree of muscular co-ordination has been attained, attention cannot be fixed long enough to produce any lasting pyschic impressions.

While the infant is acquiring the power to converge the two eyes and move the lid, its eye falls a victim to any patch of light upon which it chances to rest. Often the body, or the eye itself, or more frequently the head, gives an involuntary lurch, and then the object of vision is so lost that it seems to cease to exist. Things that are fixated and drop, or move away, appear to vanish mysteriously, whereas, these same involuntary movements, on the other hand, may bring new objects so suddenly into the narrow field of vision as to cause a distinct shock or start or other impressions of surprise. So purely automatic, and as yet unassociated with touch, are these first optical impressions, that threatening movements toward the eye do not even cause the reflex action of a wink. The light-sense in the human infant is more independent of motor power because of the inability of the new born infant to move much. Could it co-ordinate its retinal impressions with motor innervations, this relatively prolonged independence of vision would not occur.[1] In this respect the condition of the feeble-minded child approximates that of the infant before it has acquired the control of its muscular organism. In studying the material collected by the questionnaire method, careful comparison has been made with the data contained in the few continuous records made by scientific observers. Samples of the questionnaire material are here given, and also a few of the points tabulated for comparison from the individual biographies.

Early Stages of Visual Interest.

M., 2 weeks. Looked round the room and often stared at one thing quite a while (not active looking).

M., 6 weeks. Examined his hands, turned his fingers over and over.

M., 5 weeks. "It was noticed that during the latter part of the second week the eyes lost their aimless look, and began to rest upon objects. In the third week, the child looked long and steadily at a bright red waist worn by his aunt, and a week later his eyes were always attracted by the striped ribbon of her hat."

M., 8 weeks. His mother held a bright flower up before him. He opened his eyes and mouth very wide, and bounced up and down.

M., 8 weeks. Lying in his aunt's lap, looked at some flowers, reaching out his hand for them.

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[1]See note on the Study of Children, *Pedagogical Seminary*. Vol. I, p. 130.

M., 3 mos. Will turn his head and move his eyebrows when he hears a noise.

M., 3 mos. Would look steadily at a bright Japanese parasol fastened to the ceiling. Also seemed to look at the fire.

M., 4 mos. A lady with a bright green bird in her hat leaned over the cradle. He seemed to notice it, and kept looking at it.

M., 5 mos. Seemed much attracted by a red dress.

M., 5 mos. Hearing a door open tried to raise himself. Failing, cried. Was lifted up and laughed. Later was laid down without complaint.

M., 5 mos. Would sit for a long time and watch the light. Would hold out its hands for a hat or veil.

F., 1 m. Stared intently at a patch of sunlight on the wall for several minutes; looked pleased.

F., 5 weeks. Stared at a lighted lamp, and expression changed when it was removed.

F., 3 weeks. Gazed at a white blanket thrown across the foot of the crib for several minutes. There was a different expression on her face, and her eyes were more widely open than usual.

F., 6 weeks. Occasional co-ordination of eyes and apparent fixation of gaze, since second week, always upon some brightly-illuminated surface. In 5th week followed movements of hair brush with the eyes for some time.

It will be noted that with the exception of interest in color there is, for the most part, no greater range of variation than might be expected from individual differences in development. From the 163 cases furnished by the questionnaires, and the six continuous records, the following conclusions have been drawn. The earliest form in which the mechanism of attention develops is in the sight reflex of passive staring, when the baby's gaze is, as it were, caught and held even for a few seconds. This seems to occur in some cases as early as the ninth day, though there are more records of this phenomena from the second week onward. This staring is to be distinguished from the aimless and unco-ordinated movements in which, though the eyes may rest upon or seem to follow an object momentarily, there is no continuous fixation and the co-ordination is purely accidental. The psychic accompaniment of this passive staring is probably the first step by which the baby begins its gropings toward an intellectual life. Whether the stimulus which holds the baby's gaze be pleasure, as Prof. Sully suggests, or whether there may enter into it, at times, a vague rudimentary fear as seems indicated in some of the cases reported, something has stirred in the psychic life and a distinct step toward the unfolding of dormant powers has been made. The next step is taken when the baby really looks and actively directs its gaze toward the interesting object. This commonly happens about the fourth or fifth week, though a few cases are reported in which the active looking has undoubtedly taken place considerably earlier. In these cases, however, the baby seems to have been equally precocious in other re-

spects. From this time onward, for the next three or four months, sight interests predominate in a baby's life. Of the 163 cases of interest occurring before the sixth month, 139 were

	Mere Sensibility to Light.	Passive Staring.	Attraction of first real looking gaze by motion.		Interest in color.	Full Accommodation.
Miss Shinn	1st day	End of 2nd week	25th day	1 month	1 year	8 weeks
Preyer	"	11th day	23rd day	23rd day	23rd day	8 weeks
Tiedemann	"	—	13th day (?)	—	—	—
Mrs. Hall	"	End of 2nd week	28th day	32nd day	3rd week	8 weeks
Darwin	"	9th day	6th week	—	6th week [day	—
Mrs. Moore	2nd day	—	—	28th day	15th and 20th	—

visual and only 24 auditory. This, however, does not show superior development of the sense of sight over hearing, as undoubtedly the baby hears and shows decided distate for loud,

harsh or sudden sounds. The development is largely a psychic one, and the baby finds the sense of sight more useful than that of hearing in acquiring knowledge of his surroundings. While the objects which attract attention are varied, as may be seen from a reference to the samples from the returns, they are reducible to a few groups. All bright or moving objects, and anything presenting strong contrast of light and shade, whether in color or black and white, is attractive to a baby.

Examples of Early Visual Interests.

M., 5 weeks. Would lie a long time watching red paper flowers dance in the air. They were hung over his cradle.

F., 2 mos. Much interested in a bright red necktie at which she gazed intently, following it with her eyes when the wearer moved.

F., 3 mos. Gazed at a lighted lamp as if fascinated by it; became restless when turned away from and was quieted by being turned toward it.

F., 3 mos. Followed a bunch of red roses with her eyes, and when they were taken away gazed after them a long time.

M., 3 mos. Much interested in watching his own hands.

F., 3 mos. Sat and stared curiously at her father the first time he kissed her after having shaved off his beard.

M., 4 mos. Very much interested in U. S. flag; reached for it.

F., 4 mos. Appeared quite fascinated by hat with bright red flowers. Was also interested in red ball.

F., 5 mos. Lay quietly for fifteen minutes watching a glass chandelier which glittered.

F., 6 mos. Can almost always be amused with a hand mirror.

F., 6 mos. Interested in faces, especially if spectacles are worn.

M., 13 weeks. Interested in a bright red ribbon, pulled at it, tried to put it into his mouth and played with it for some time.

F., 6 mos. Interested in bright colors and surfaces; likes to listen to the piano.

F., 6 mos. Much interested in looking at strange people; would stop crying to look at a stranger.

M., 6 mos. So absorbed in watching another child of the same age that his attention could not be distracted.

F., 6 mos. Seemed quite excited over a hat with nodding white flowers, reached for it and looked disappointed when the hat was put out of sight.

M., 6 mos. Finds her grandmother's spectacles a fascinating object.

M., 7 mos. Gazed intently at a blue and white silk tie, reached for it and tried to get it into his mouth.

F., 7 mos. Delighted with lighted lamp. Smiles and moves her hands and feet eagerly.

M., 6. mos. Would watch any one who passed him as long as he could. Same child at 9 months would look fixedly at bright flowers.

F., 7 mos. Would lie contentedly watching her carriage parasol. It was lined with green and had a fringe which moved.

Every color except violet was mentioned as attractive, red being mentioned most frequently, but white had almost as many mentions, and the data furnish no positive indication as to whether color, brightness or contrast was the real stimulus. In the list of red objects which proved attractive are a red

lamp, red flowers, red and white necktie, red blanket, red hat and the American flag, but it is to be noted that in nearly every case either bright red was mentioned or contrast was involved, as in the United States flag and red and white necktie, or the object was luminous as the red lamp. The color sense of babies has not yet been experimentally tested and until it has been, inferences drawn from the apparent attractiveness of colored objects in which brightness, contrast, and motion may constitute the whole or a part of the stimulus, have little value. Preyer, it is true, mentions his child's interest and pleasure in a rose-colored curtain on the twenty-third day of its life, as a color interest, but careful and scientific as Preyer's observations usually were, in this case, he made no tests to discover whether any surface of equal illumination would not have proved equally pleasing, and Miss Shinn is correct in saying that there is no *proof* of color discrimination or interest within the first year. Hats with nodding flowers of any color, the glitter of spectacles or the radiance of a lighted lamp, all seem to possess a peculiar fascination for babies, but it is about the human face that interest centers and earliest recognitions cluster. During the first three months it is probable that this interest is due largely to differences in light and shade and to the constant changes produced by motion, recognition by sight being a development of the latter part of third month, according to the observations which can be classed as really scientific.

But though sight interests so largely predominate during the first four or five months of a baby's life the other senses are by no means excluded. Sounds are noticed within the first week of life though oftener as disagreeable than agreeable experiences, the first record of auditory impressions showing that they are often accompanied by a shock which, if not true fear, is, at least, the basis of what later develops into fear. Preyer's baby listened to the tones of a piano with evident pleasure in his eighth week, and Mrs. Moore's boy lay quietly for twenty minutes on the 20th day while some one was singing to him, though it is recorded that on the whole, his first month was characterized by lack of interest in sound. The earliest manifestations of pleasurable interest in sound seem to be chiefly of an inhibitory nature, the child ceasing to cry or lying still when interested in sound. From the 5th month onward there is a marked rise in auditory interests and these are, for the most part, mingled with the development of motor activities; the crackling and tearing of paper becomes an absorbing interest; some children love to touch the piano keys and are better satisfied with their own musical attempts than those of others; the ticking of a watch excites active curiosity as to where the sound comes from. Sight interests do not diminish

but they are supplemented by those of hearing and muscular activities, as the baby begins to co-ordinate things seen, heard, touched, tasted and smelled. Sully (Extracts from a Father's Diary) notes that in the 10th week the sound produced by striking a wine glass excited "an agreeable wonder" though the sound of the piano proved disconcerting. Later the child became fond of it and "evidenced his enjoyment by complete relaxation of the muscles." Inhibitory effects and muscular relaxation are more frequent modes of manifesting pleasure in sound than in sight, where the reaction is often shown by widely opened eyes, movements of the hands and feet, with, later, attempts to grasp the pleasing object, and looks of eagerness and desire. Thus it will be noted that, though muscles and skin sensations including temperature, are those earliest experienced, they do not form the chief centers of interest during the first months of a baby's life; the stage of muscle interest being distinctly later in development than those of sight and, even then, sight interests are not subordinated but co-ordinated with them. This acceleration of sight development beyond that of the senses, which genetically precede it, is undoubtedly due to its greater utility. In the case of hearing, as of sight, the material gathered by the questionnaire has been compared with the continuous records, and examples from both are given. It will be noticed that there is greater variation in the ages at which the different developments occur than in the case of sight. This is, in part, due to the fact that for the first eight weeks, at least, in sight, psychic developments keep pace with certain definite physical factors, which is not the case with hearing, the ability to hear being present from the first week although the psychic development comes later. It is interest in sound, which is later in development, and not the physical ability to hear. Early sensations of sounds are, in many cases, connected with either unpleasurable or negative feeling tones, Light-sensations if not too strong are of a pleasurable kind. while sound frequently causes a shock or kind of rudimentary fear and often occasions crying.

CASES OF EARLY INTEREST IN SOUND.

	Sound first noticed.	First pleasure in sound.	Turning head in direction of sound.
Miss Shinn	3rd day	27th day	3 months.
Preyer	4th day	8th week [2]	11th week.
Tiedmann	——	40th day	——
Mrs. Hall	3 hours	6th week	21st week.
Darwin	——	6th week	49th day.
Mrs. Moore	2nd day [1]	20th day	30th day.

[1] The child ceased several times crying when his father whistled.
[2] On the 11th day the child was quieted by sound of father's voice.

F., 5 mos. Would always stop crying to listen to music.
F., 6 mos. Turned her head in direction of sounds.
F., 6 mos. Interested in music.
F., 6 mos. Interested in listening to music. (M., 5 mos.) (F., 5 mos.) (M., 10 mos.) (M., 10 mos.) (F., 1 yr.).
F., 9 mos. Much delighted with organ music.
F., 7 mos. Always cried to be lifted up when he heard any one talking. As soon as he could see was satisfied.
F., 1½ yrs. Similar case.
F., 9 mos. Would always amuse herself if allowed to touch the piano keys. Would clap her hands to the rhythm of music.
1 yr. At this age he learned to tear paper and this interest continued for several months.
F., 1 yr. Much interested in a toy that rattled.
M., 1 yr. Would sit very still and listen intently to watch.
F., 1 yr. Interested in cornet.
F., 15 mos. Tried continually to get her rattle open, shook it, listened and then tried again.
F , 18 mos. Much interested in ticking of clock.
F., 18 mos. When her cousin clapped her hands, came to her and examined her hands.
M., 20 mos. Delighted in listening to piano.

After these early stages in the development of visual and auditory interests, interest in seeing things done plays a prominent role in the baby consciousness, and closely associated with it is the desire to do. The stage of active experimenting fills the second half of the first year. It is the period in which the series of sight, auditory, muscular and skin sensations coalesce. Of the child at this age Perez writes: "His activity, doubled now by curiosity and stimulated to the highest pitch by emotional sentiments of all sorts, makes him happier and happier, and seems to him so great a necessity that a quarter of an hour of relative inactivity weighs on him as much as a whole day of ennui on a grown up person." Whatever the development of the baby's time sense may be, Perez is undoubtedly right as to the curiosity and muscular activity which characterize this age. In these months the range of interests is not only greatly increased but individual predilections begin to be apparent. A distinct interest in mechanics is observable in some children as early as the 7th month,—the wheels of a chair or carriage, or the hinges of a door proving a continued source of entertainment. A little later, the problem of a lock and key becomes an absorbing interest, the inserting of the key in the lock and trying to turn it holding the attention for astonishingly long periods. Nature interests, too, are shown in these months; the interest in animals, even when accompanied by a certain degree of fear, being marked. Not only living animals, but animal pictures, and later animal stories, are a source of delight, and the joy of outdoor life is plainly manifested by baby coaxing and pleading in sign language long before the development of speech. In Miss Shinn's little niece this interest in animals was almost a

passion, developed suddenly just at the close of the first half year and was unaccompanied by fear. A large dog, which the baby had seen all her life, suddenly roused her desire and she would pay attention to nothing else. "Day after day, for weeks, the little thing was filled with excitement at the sight of the shaggy Muzhik, moving her arms and body, and crying out with what seemed intensest joy and longing. When he came near her excitement increased and she reached out and caught at him." While this case is more marked than is usual in so young a child, the interest in animals seems common to babies in general and continues as a permanent source of pleasure unless interfered with by rousing the fear instinct, which, though it is of frequent occurrence, soon wears off under normal conditions of familiarity with animals.

The stages by which the child passes from passive to active observation and experiment are very gradual, and not only do the different stages overlap in the course of normal development, but we find the rudimentary stages persisting even to adulthood in the case of the uneducated and undeveloped and, perhaps, occasionally manifested by every one under certain conditions of shock or surprise. The inarticulate surprise, the fixed stare and hanging jaw of the dull-minded youth when brought into new and unaccustomed surroundings are familiar examples of this early manifestation of curiosity persisting beyond its time. Cases of arrested development and imbeciles never outgrow this primitive manifestation. Instead of fully developed, eager, questioning curiosity, there is only the stare of amazement and shock of surprise. This arrest in the development of curiosity is marked in cases of epilepsy and is one of the symptoms of mental degeneration. The patient loses interest in anything new, his attention is hard to gain, and he finally sinks into an apathetic state with "no wants, no desires, no affection," the power of attention completely lost. In the training of the feeble minded, the teacher's chief problem is to rouse interest and curiosity, so that the wandering attention may be held long enough to make a lasting, mental impression.

In the development of normal children, active observation begins to play a prominent part toward the close of the first year. No longer content with merely seeing things, the little investigator desires to touch, taste, smell and handle everything within reach. Curiosity as to the contents of parcels, boxes, bureau drawers, trunks, bags and pocketbooks seems to be universal. Rummaging through closets, drawers, work-baskets or writing desks becomes a delight. The mere fact of a closed space seems to exercise a fascination over the childish mind. So wide spread and deep seated is this curiosity and

interest in whatever is concealed from view, that we must look for its explanation in the phylogenetic rather than the ontognetic series. We can trace it far back in the animal line, when undoubtedly its utility lay in the food seeking impulse, and it is probable that in primitive man as in animals the impulse to explore unknown cavities, even though exposing the explorer to danger and coming into conflict with instinctive fears was, on the whole, an advantage in the struggle for existence. Sixty-nine cases of this active curiosity in regard to parcels and boxes were described, the ages varying from one to seven years, and the larger number of cases occurring between the ages of four and six. At about the same ages, interest in discovering why the door bell rang is at its height. With some children this becomes temporarily almost a mania and all other interests are sacrificed to running to the door or to some position from which the door can be seen.

Active interest in nature, though unfortunately too often repressed by unfavorable surroundings, develops rapidly after the first year. Children of kindergarten age, three to six, respond readily to any stimulus in this direction whether of plant or animal life. The desire to touch and handle things at this age is so great that we have numerous instances of seeds regularly dug up to watch their growth, flower buds picked or blown open, and the eyes of puppies and kittens rudely exposed to light before the proper time, as well as numerous other attempts to assist nature in ways which, though detrimental to her processes, are, nevertheless, inspired by a genuine though mistaken zeal for finding out her ways. The desire to handle things seems to develop concomitantly with the power of locomotion, and so necessary to the child's development is it that we can but sympathize with the little fellow who, after encountering repeated prohibition, inquired tearfully "What can I touch?" even although the artificial conditions of social environment demand the restraint of this eager spirit of investigation. But, though repression in some directions may be a necessity, good pedagogy demands that some outlet for this instinctive desire, which is at the root of all intellectual advancement, be provided. As an educational experiment, both Mrs. Moore and Mrs. Hogan found that diverting the attention to some object equally as desirable as the forbidden one, proved far more effective than direct prohibition. In the former case, the object was soon forgotten and there was little tendency to recur to it, while direct prohibition seemed to impress it upon the memory, and constant repetition was necessary until the prohibition was sufficiently impressed for eager desire to yield to force of circumstances, though the small investigators were quite incapable of understanding why the

denied object should be unattainable. So wide is the range of interests which come under the classification of active observation, that a complete representation of the material would prove tedious to any save specialists, but a few examples are inserted to show the character of the material and the range of ages included in the present study.

Active Observation with Aid of Other Senses.

F., 7 mos. Cake basket near her. Upset it apparently out of curiosity.

F., 10 mos. Took great interest in examining the frame of a picture which stood on an easel.

F., 1½ yrs. When taken up by a lady, began to feel of her bracelet and pin, and to smooth the velvet on her dress.

F., 9½ mos. Being put on the floor, crept to the coal scuttle and upset it.

M., 3. Greatly interested in listening to water rushing through a sewer.

F., 4. Came into the room and saw a box which had not been opened. Would not go out to play, and as soon as others left the room tried to open the box. Failing to open it, she knelt down and smelled of it.

M., 4. Visiting; eager to see the bees. Ran down the walk and pounded on the hives. The bees came out and stung him.

M., 5. Saw a garter snake which he tried to catch. Told his mother he had been trying to get a pretty piece of ribbon for her.

M., 6. Looked at and handled everything he could reach in a depot to see what it was made of. Rubbed his hand all over a sign "No smoking."

M., 6. Curiosity easily aroused about books; always wants to "see the inside."

M., 6. Greatly interested in what he saw at a basket factory.

F. Grade III. Got excused from school to see what a toad was doing; ran all the way back to the toad. He was casting his skin.

F., 8; M., 7; M., 9. Climbed trees to see the eggs in birds' nests; rarely destroyed anything.

M., 9. Has a garden which he watches very closely to see when the seeds are sprouting. As soon as they come up, he plants others in their places to see them sprout.

M., 9. Would catch and carefully examine insects.

M., 8. Wanted to be allowed to stay at home from school to watch the plumber.

M., 8. On certain afternoons always went to watch the printing of the paper; also liked to watch the veterinary treat a horse which had a lame knee.

M., 9. Wanted to see the inside of a water pipe. Started to crawl through, but received a bad cut on the head.

M., 9. Took great interest in watching the hoisting of iron girders from the ruins of fire; was unwilling to go home until he had seen the whole process.

M., 10. Much interested in machinery; very careful in observation, and could put simple apparatus together after taking it apart.

F., 11. Delighted in examining an old clock which was given to her for a plaything.

M., 13½. Greatly interested in words; delighted whenever he hears a new one.

F., 12. Delighted if she can be allowed to go into the kitchen and watch cooking processes.

So closely connected with the stage of active observation that they continually become merged in each other is the experimental stage, the earliest forms of which, in obtaining muscular control of the body, Miss Shinn has so well described. These early experiments with muscle and touch sensations are soon extended to the other senses, and though disagreeable sensations and even pain is a result, these serve as guides for, rather than deterrents from, the spirit of investigation. Experiments in touch, taste, and sound become prominent in the second year, and the latter are frequently carried to an extent which proves trying to the nerves of adults. Active experimenting with taste develops somewhat later. According to Mr. Bell's [1] studies, while ability to carry things to the mouth begins in the 4th month, and some tastes are differentiated at this time, and biting develops along with dentition, active experimenting with taste proper begins in the second year. Children from two to four or five years taste everything. One hundred and eighty-two different articles are mentioned in his list of objects tasted, including plants, hay, straw, sticks, seeds, paste, cork, rubber, soap, tar, dirt, worms and insects, in fact anything "that can be carried to the mouth or the mouth to it," quite irrespective of any edible qualities in the objects tasted. Another phase of curiosity in regard to taste is the "teasing to taste," which, according to Mr. Bell, reaches its height between the ages of seven and ten. One hundred and twenty-two different articles are mentioned in Mr. Bell's list, the majority of them edibles in some stage of preparation, but uncooked mixtures and medicines of disagreeable flavor also figure largely in the enumeration. Experimenting with mixtures of both foods and drinks is most frequent between the ages of five and ten, and a year or so later comes the stage of adolescent testing, when the desire to try everything new in a bill of fare, to sample new combinations and flavors appear to be a characteristic of the developmental period.

Experiments in Taste.

M., 14 mos. Took a bite of soap. Three weeks later made a second trial, after which he gave up soap as a possible addition to his diet.

M., 3. Began to eat "rat poison" to see what it was: Was interrupted just in time.

F., 4. Wanted to taste horse radish, and being refused, tasted it when her mother's back was turned.

F., 4. Very curious about a box of paris green and narrowly escaped poisoning.

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[1] Pyschology of Foods, Sanford Bell.

F., 4 and M., 4½. Tasted grafting wax but did not like the flavor.
F., 4. Ate a raw potato to see how it tasted.
M., 6. Experimented with different things to see if the pig would eat them.
M., 6. Received an Easter egg; ate it immediately to see how it tasted.
F., 6 and F., 8. "My sister and I used to mix up snow with milk and juices to make new drinks."
F., 6. Ate green grapes to see if they would really make her sick, as she had been told.
M., 6. Tasted tabasco sauce although he had been warned of the effect.

Another phase of experimental curiosity closely associated with experiments in taste is the smoking craze, which is rife among boys from eight to ten years and appears to begin about a year earlier in girls. Mr. Bell gives a list of seventy-one different substances tested as to their smoking qualities by boys and girls of these ages. Bark of various kinds, spices, seeds, leaves, stems, rattan, cork, in fact almost anything that could be smoked and was easily procurable, is to be found in this list. While it is undoubtedly true that imitation plays a large part in this smoking craze, its root lies in the natural desire of growing children to test new sensations for themselves, and even the unpleasant results consequent upon some of the trials do not prevent further experimentation along the same line.

Up to the age of ten or eleven years there seems to be little tendency to specialize in experiments. In the active, healthy child the desire for knowledge is omniverous. He experiments not only with his own sensations but is possessed by a desire to find out how people, animals, and plants will act under certain circumstances. He not only wants to find out what he himself can do, but what others can do, and he wants to know the why of things. His mind is open in every direction and it is the golden age for arousing the interests that may prove to be life long. To repress his activity is to stultify his mind and sympathy with his interests, and an outlet provided for his activity will do more for him at this age than all the codes of discipline ever invented, which fail to recognize that curiosity and activity are normal to his age.

A little consideration of some of the examples, which are usually classified as "naughtiness," will show that they are by no means to be entirely set down to intentional misbehavior on the part of the child and that justice demands an investigation of the child's reason for the act.

F., 2. Active interest in closed boxes or bottles; frequently tasted things in bottles until one day she tasted oil of cloves.
F., 2. Was trying to put her fingers in her baby brother's eyes. Said she wanted to know how they felt. "How do they feel mamma?"
F., 2½. Touched a hot stove to see how it felt.
F., 3. Stuck a pin in her baby sister to see what she would do.

M., 3. Threw everything at an iron door sill to see if it would break.
M., 4. Hammered a bell to see what made it ring.
F., 5. Hid in an unused chamber and remained there several hours because she wanted to find out what the family would do.
F., 3. Interested in throwing stones, tried to see how far she could throw.
F., 4 to 5. Experimented with a mouth organ.
F., 4. Used to scratch pictures of people to see if they had life in them.
M., 5. Much interested in plants and watching things grow.
M., 4. Matches were a great temptation. Always wanted to light them.
M., 4 and M., 5. Always trying to find out what things are made of.
M., 5. Tried to open the dog's mouth to see what made him bark.
F., 5. M., 6. Tied a cat's hind legs together to see how she would walk. Several cases of tying up cats' feet in tissue paper.
F., 6 and 6½. Cut each others hair to see how it would look.
F., 6. Much interested in gardening, but forces open the flower buds because she can not wait for them to open naturally.
F., 5. Dug up the radishes every day to see how they were growing.
F., 5. Seeing tears in her mother's eyes when she was peeling onions: "Mamma, the onions must hurt you. Give me an onion and let me find out where the hurt is."
M., 5. When in a drug store, opened five boxes of soap while his mother's back was turned.
M., 6, and F. 5. Put the dog's head in a paper bag to see what he would do. Several cases of similar experiments with cats.
F., 6. Turned on the gas and said she wanted a fire.
F., 6. Worked very diligently, and finally succeeded in taking up enough of a carpet to find out what caused a little hump in one place.
F., 6. Dug up seeds to see how they grew.
M., 6½. Kept opening the oven door to see the cake baking.
M., 7. Greatly interested in door springs, and tried to make one.
F., 7. Interested in hats, used to make many new shapes out of paper. Experimented on everything that could be glued.
M., 7 and 8. Having seen a steam engine tried to make one.
F., 8 Dug up a buried canary bird to see how it looked.
M., 8. Very much interested in a pair of new skates and the way in which they fastened. His next composition was on skating.
F., 6, and M., 7. Very curious to know how flying felt. Went a high bank and jumped, flapping their arms.

Apparent Cruelty. Under experimental curiosity, are to be classed a large number of cases of apparent cruelty, which are due not to any real impulse toward cruelty but to ignorance and to an impulse, which, when properly directed, is the prototype of scientific investigation. When a child of three endangers the life of her pet kitten by putting it into a tub of water, there is perhaps, scarcely need for the tearful explanation that she wanted "to see if kitty could swim like the swans she saw at the park," to clear her from the charge of cruelty, but the case is not quite so clear when a boy is found cutting off the leg of a live frog. When, however, an investigation reveals the fact that he has heard that certain lizzards reproduce their tails, and wanted to find out whether the frog would "grow a

new leg'' the case seems to be one of a desire for knowledge rather than intentional cruelty. In each of the appended examples there was an apparently wanton infliction of pain, and yet in no one of them was the motive primarily cruelty.

Cases of Apparent Cruelty.

F., 3. Put the kitten's front paws on a very hot stove to see what it would do.

M., 4½ yrs. Broke a little chicken's leg and brought it to his mother to learn how to mend it.

M., 8. Cut a crow's tongue to find out whether it would learn to talk; had been told this was the case.

M., 8 or 9. Shut a squirrel in a dog's kennel to see how long it could live without food. Was much interested in Tanner's fast of forty days, which was the incentive.

M., 6. Cut off a frog's leg to see whether it could hop with one leg. Was not ordinarily a cruel child.

M., 8-12. Broke chickens' legs several times but always set them; became a surgeon.

M., 8. Cut off a frog's leg to see if it would grow again.

M., 6. Was found pulling the legs off a fly; said he wanted to see if the fly could walk on the ceiling without.

M., 8. Dissected a frog to see how it was made (the extent to which this was vivisection is not stated). When reprimanded said: "Well, suppose another frog was hurt, I thought maybe I could fix its wheels if I knew what was in this one."

Moreover, we find numerous instances of children deliberately exposing themselves to pain to satisfy a desire for knowledge, though probably with the same lack of actual realization of pain as in the case of experiments on animals. The child who ate green grapes to see if they really would make her sick, had previously experienced an attack of colic, but the mere memory of pain was not sufficiently vivid to check her desire for experiment. Another child, on being told that iron on a very cold day would burn her tongue, deliberately tried it; and a boy of nine exposed himself to whooping cough "to see how it felt." A little girl of five, on observing tears in her mother's eyes as she was peeling onions, remarked: "Mamma the onions must hurt you; give me an onion and let me find out where the hurt is." Many cases of what, on first thought, appears to be a shocking callousness in children to the sufferings of others, prove upon investigation to be mere inability to appreciate the situation, due to a lack in experience on the child's part of either physical or mental suffering. Most children have, of course, temporary experiences of pain, but childish memories are short, and pain, unless exceptionally sharp or prolonged, is quickly forgotten; so that the average healthy child has very slight appreciation of illness or suffering and exhibitions of sympathy are largely imitative. A child who is habitually cruel is an abnormality and will probably be found to

have other signs of degeneration, but all the cases above quoted have not cruelty, but a desire for knowledge, however misdirected, for their impelling motive.

Questions. The development of the questioning phase of curiosity is coincident with that of language, and among all its manifestions the questions of children hold the most prominent place and furnish the most valuable material for study. Though there is a residue of miscellaneous questions which form an exceedingly interesting group, the larger number can be classified under the following groups. Questions in regard to (a) forces of nature, (b) mechanical forces, (c) origin of life, (d) theology and bible stories, (e) death and heaven, (f) questions which are merely inquisitive. These last form but a small group in comparison with the others, less than five per cent. of the whole. Under the first group of questions, in regard to nature and natural forces, are included questions in regard to the sun, moon, stars, cloud, rain, fog, wind, thunder and lightning, fire, water, animal and plant life. Of four hundred and sixty-five questions asked by children under the age of ten, if questions on the origin of life be included, over one-half were on topics relating to nature and the working of natural forces. Nearly 75% of these questions relate to causation. To the active imagination of the child all the phenomena of nature furnish material for wonderment, and though he often invents explanations for himself, questions of "what" and "why" are well nigh universal. Children under seven show a marked tendency to attribute personality to the working of all unknown agencies. Questions often take the form of "who made it?" and though this is probably largely due to the fact that children's questions in regard to natural causes are answered by the phrase "God makes it," this does not at all interfere with the child's idea of some intervening agency, more within the limits of his comprehension. Many children show by their questions that they attribute sentience to wind, think that the thunder is caused by some one rolling barrels, and that the flowers and trees have a life of their own. Some of the reminiscent papers describe a state of puzzled wonder, often lasting for years, and which obtained little relief from questions, as to how the earth could turn over without tipping people out their beds, and why the water did n't run out of the wells at night. Some children brood silently for years over questions, which they do not themselves originate, but which once put into their minds recur again and again, and when put into articulate form are met only with the unsatisfactory answer: "You are n't old enough to understand it yet." Those who remember their own childish puzzles will also remember the vague feeling of injury which such an answer

roused, which, could the child have put it into words, would have probably been expressed in some such form as "Then you should n't have made me think about it in the first place." And good pedagogy is on the side of the child. The active mind of a child can originate enough questions that are, at least, partially within his comprehension and wholly within his interests, to furnish the basis of a liberal school curriculum without the addition of insoluble puzzles. Fortunately for the child, the natural tendency to accept things as they appear, has a nullifying effect upon this premature instruction in healthy, normal children, but the delicate and neurotic frequently suffer imaginary terrors induced by distorted ideas.

In a recent study of the faults of children[1] it appears that, from the teacher's point of view, the most frequent and troublesome fault in children is inattention and lack of application. Trying enough to the overworked teacher, no doubt, but from the child's point of view, there is something to be said in regard to subjects to which he is required to pay attention. A child's attention is chiefly of the passive or involuntary sort and active or voluntary attention is a later development. It is easy for a child to attend to the things which interest him; but too often he is required to pay attention to things in which he has no interest whatever. Voluntary attention is a much more complex matter, and even in adults, unstable and dependent upon nervous conditions. It is easily fatigued, and to expect a child to continue a voluntary exertion throughout school hours without an appeal to his natural interests is irrational. No study of the span of either voluntary or involuntary attention at different ages has yet been made, though some careful observers have taken occasional notes on its development in individual children. Mrs. Hall records that her child paid attention for eight minutes to the rattling of a box on the 53rd day of his life. The same child, on the 63rd day, was interested for thirty consecutive minutes in the rattling of a purse of coins. Miss Shinn also notes that, more than once in her fifth month, her little niece spent half an hour at a time in gazing out of the window. Voluntary attention is a complex development involving an effort of will and dependent upon the natural or involuntary attention, and the best educational methods demand a study of children's interests, and an adaptation of the school routine to them, so that full advantage may be taken of the simpler and earlier development.

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[1] Norman Triplett: A Study of the Faults of Children, *Ped. Sem.*, June, 1903.

Questions in Regard to Nature.

F., 3½. "What makes the sun shine? Who puts the stars in the sky at night?"

F., 4. "If I put a ball on that hill it rolls down, and what I want to know is how God keeps the moon up in the sky?"

M., 4. Asked about conglomerate rock, how the pebbles came inside. Saw a crab shell; asked what it was, and all about its life and habits.

M., 4½. Asked how the moon got up so high, and said he would n't like to be up on it.

F., 5. "What makes the stars twinkle?"

F., 5. "What do we have a moon for? Why don't it be as bright as the sun? Why don't it be round? How can it be round sometimes? What good is the man? Don't the woman let him go out ever? If I was in the moon could I see you? Why not? Can I go when I die if I want to?"

M., 5. Asked if the man in the moon ever went to sleep; why the sun stood still; what made the stars twinkle; how the dew came on the grass; what made the thunder make such a noise; what made the wheels of the clock go round and what made the pendulum swing.

M., 5. Used to wonder whether the clouds run on the sky or on wheels, and why they did n't fall down.

M., 6½. "How does the man in the moon get anything to eat?" Not waiting for answer. "I guess God must feed him with manna like he did the people in the wilderness."

M., 5. "What makes the fire jump up and down?"

M., 5. "Why does the rain come down? Where does it come from?"

M., 6. Wanted to know what fog was and what made it?

M., 6. "What makes the wind blow? Is some one pushing it along? I should think it would stop when it ran into a house or big tree? Does it know it turns our papers over?"

F., 6. Watching a beam of sunlight: "Why does it stay so narrow? Why is it on this side of the room in the morning and the other at night?"

M., 6. "How can the world turn round and not tip us out of bed? How does the water stay in the wells?"

M., 6. On seeing a windmill for the first time: "Does the wind make the wheel go round? How does the wind make it go round?"

F., 7. "Where does the snow come from? Where does the sun go at night? What makes it thunder and lighten?"

F., 7. Was told that the moon was made of green cheese; and was curious to see if it really was.

F., 7. "What makes the stars shine so bright?"

F., 7. Thunder storm. "What is that, thunder? Oh dear, what good does it do to thunder? Who makes it thunder, any way? I wonder if it thunders in N. Y."

F., 7. Saw plums for the first time. "What are they? Can you eat them? Where did they come from?"

F., 7. "What makes the waves roll in? Where does the water come from?"

F., 7½. "Where do all the worms come from after a shower? Do they rain down?"

F., 8. "What makes the snow? Why is n't it dirty, like dust."

M., 9. Wanted to know where the rain came from, how it got down, and why it didn't rain all the time.

M., 9. "Why is the moon different shapes? Why is it big sometimes and little others?"

M., 11. Looking at the river which was very high: "I wonder what made it so high, it has not rained very much."

M. Having had the new moon pointed out to him, wanted to know where the old moon was.

M. Wished to know what the moon was made of, and if he could get it by walking over it.

F., 9. "What is the end of the world made of? What should I see if I went where the mountains touch the sky? How many stars are there?"

M., 9. "Why don't nuts fall before the frost comes? What does the frost have to do with it anyway?"

Animal Life.

M., 5. Looking at bears: "Mamma, why do they throw so much bread to bears?" "Because they are hungry, and must have something to eat." "Oh, do they get hungry as we do?"

M., 5. On seeing a Manx cat for the first time: "Did a dog bite off her tail in a fight?" "Did the cat want her tail cut off?" "Do you think I can make my cat bobtailed?"

M., 4. On seeing a fur boa: "Who killed kitty? Did kitty cry?"

F., 5. "Why does kitty have fur?"

M., 6. "Do fishes go on land to sleep?"

F., 6. "How do the flies walk upside down?"

F., 7. "Why do a canary's throat feathers ruffle when he sings? How does he do it?"

Nearly twice as many boys as girls, according to the present data, show special interest in mechanics, and the beginning of this interest is shown at a very early age. Mrs. Hogan notes the interest as a persistent one in her boy, at the age of fourteen months, and the five years of the record show that it was continued. Questions are but one phase of the development of this interest, the earlier manifestations being active observation passing into experiment, and very fully developed in the destructive phase of curiosity. Fifty per cent. of the cases of boys' interests and curiosity in all its phases are connected with motion, the desire to find out what makes things go being a powerful incentive to various forms of investigation. Children under three are apt to attribute life to things which have motion, their first experiences being connected with living beings as causal agencies. Many children and animals show fear of mechanical toys, and there is a struggle between this timidity, in the presence of the mysterious and unknown, and curiosity in regard to the moving object. A kitten exhibited, for several weeks, an amusing struggle between evident fear and curiosity whenever a mechanical seal was wound up and turned loose on the carpet. The movements of the seal were somewhat erratic, and the kitten following at what, he probably estimated a safe distance, was occasionally surprised by a sudden turn of the seal, which he invariably avoided by leaping into the air. Whenever the mechanism ran down, he smelled of the toy,

pushed it about with his paws, and occasionally turned it over, always starting back, however, if he happened to set the wheels in motion. Familiarity finally overcame fear, even when the toy was wound up, but it never proved as attractive an object to chase as a ball for which the kitten himself supplied the motor power. This attitude seems also to characterize young children, for a baby's early motor interests are in the things which he himself can do, and disappointed friends and relatives have often found their gifts of mechanical toys a failure, simply because they have too far anticipated the natural development, and the toy has proved either a source of fear or failed to excite special interest. In fact, even at a later period, mechanical toys which are too complicated in construction, or too delicate to bear investigation, which is apt to be clumsy, soon lose their attractiveness, while something that can be taken to pieces and put together by unskilled fingers so that it will "go again," may prove a lasting means of amusement and instruction. Kites and tops are as interesting to the children of the present generation as to their fathers, and to the children of the orient as well as the occident, because there is something for the operator to do as well as to watch, and curiosity as to just how these toys will behave under certain conditions is kept stimulated by occasional failure, and the necessity for finding a reason therefor. The few examples of questions here given suggest a range of interests which could readily be further stimulated and given an educational impulse.

Questions Showing Mechanical Interests.

M., 3. "What is inside your watch, auntie, that makes it talk?"

M., 4. Watching the walking beam on a steamer: "What makes that thing go up and down? Is it the man?"

F., 4½. Seeing her mother crocheting lace: "Is that the way the lace on my dress is made?" Being answered in the negative: "Then how was it made?"

M., 7. "What makes the trolley go?" "What does that engine need water for?"

F., 7. Always liked to watch the oiling and cleaning of the carriage. Asked many questions in regard to it.

M., 7. After seeing a pile driver at work, and visiting a fort, overwhelmed the family with questions in regard to them.

M., 7. "How does the steam move engines?"

M., 7. "Why can't you see the messages on the telegraph wire? How do they go?"

F., 7. On seeing an electric car for the first time: "What makes that car go? How can it go without horses?"

M., 7. "Why can some people take pianos apart when others musn't?"

M., 7. "How does pressing the button make the bell ring when it does n't move the wire any?"

M., 7½. Asked "what made the clock run?"

On a ferry boat with his father: "What makes the boat go?

M., 8. "What do all these people want to ride on the boat for? How

long are we going to stay on the boat? Do you like to ride on the boat?"

M., 8. First time he rode on a train wanted to know "how it went, why it went and how the engine was made."

M., 9. Was very anxious to know how the train run. When he got out wanted to know how the wheels staid on the track. Was told that they were grooved and that kept them on. Ran back quickly just as the train was moving off and called, "Wait a minute till I feel it."

M. Boy on a train. What is that? What are those men doing there? What are they doing it for? What makes it whistle so? How does the train move? What does c o k e spell? What is it? Did I ever see any?

M. Small boy seeing a train. What makes that train go? Why do they ring that bell? Where does that smoke go? Who made that train?

Origin of Life. The questions relating to the origin of life were asked almost entirely by children between the ages of three and eight, the greater number falling between the ages of five and eight. Very few were reported after this age. This fact is significant and has an important bearing on the question of what teaching should be given to children in this fundamental fact of life. That curiosity on this subject develops in both boys and girls before the age of seven, is attested not only by the instances sent in answer to the syllabi, which made no mention of this topic, but asked only for instances of curiosity shown by questions without suggestions as to subject matter, but by the personal testimony of a number of teachers of wide experience, and many thoughtful mothers to whom personal experience has brought home the importance of the question. That there is really a falling off of curiosity at this age is not probable, and the absence of questions indicates either that the child's requests for information have been evaded, and fanciful and unsatisfactory answers have been given until he has become hopeless of obtaining information from the proper sources, or that curiosity has been satisfied by the teaching of other children in crude and garbled form, and the child is ashamed to ask further questions. The testimony of teachers in regard to conversation overheard among children, and a number of answers by adults to the question, "How did your knowledge of the origin of life first come to you?" have shown that not only is this the case, but that in later years the way in which such knowledge has come is bitterly regretted, because the beauty and sacredness which should belong to all thoughts connected with the coming of new life, has, for them, been sullied, and this is felt as a loss and an injury which no later teaching can ever fully repair. A study of the character of the questions at different ages, here inserted, shows in the earliest years the simple, frank curiosity of childhood. Later ones betray very plainly the false notions acquired from un-

satisfactory or untruthful answers, which do not explain that for which the eager mind is groping.

Questions Relating to Origin of Life.

F., 3½. "Mamma, where did you get me?"
F., 5. "Where was I when you were a little girl?"
M., 5. "Where did baby come from? Did God drop baby down from the sky?"
M., 6. "Was I a speck of dust? Did it have blood in it?"
F., 7. "How did God send the baby? Did he send an angel down with it? If you had n't been at home would he have taken it back?"
M., 7. "Where do doctors get babies from?"
M., 7. "Who is 'Dame Nature?' Did you know she was going to bring you a baby? How did you know whether it was a boy or a girl?"
F., 6. "Mamma, where do the chickens get their eggs?"
F., 7. "How did the expressman know where to leave the baby?"
M., 7. "Where was I before I was born?"
M., 7. "Where was I when you went to school?"
M., 8. "Where do little lambs come from? *Do* they come out of old stumps?"
F., 8. "How did you know baby was coming, and get his clothes ready?"
F., 19. "When I was 12 years old, suspecting that there was to come to our home a little stranger, and imagining that my mother was occasionally engaged in some secret needlework, I determined to satisfy my curiosity by an investigation. Selecting a time when there would surely be no interruption, I went to her room for proof of my suspicions in the shape of tiny garments. My search was successful, and my curiosity satisfied, but my act was discovered later, and I was reprimanded."

Why, on this subject, on which the child most needs wise and adequate teaching, should he be left to acquire information in stealthy fashion from those totally unprepared to gratify his legitimate and natural curiosity in healthful ways. Too often the information comes from newspaper reports of criminal cases, which are read and discussed by children in the fourth and fifth school grades. Could parents realize what it may mean to a child to have his first knowledge of the origin of life associated with sin, shame and secrecy, they would be guarded against it as from deadliest poison. One wise and beautiful mother of my acquaintance, whose example is worthy of universal imitation, adopted the principle of answering truthfully, and to the measure of the child's understanding, all spontaneous questions. In a family of five children, each child has known of the coming of the younger ones, and has been allowed to see the dainty garments prepared for the tiny baby who was coming to be a part of the home. This knowledge has been a beautiful secret, too sacred to be shared with any one but "father and mother," but each child has shared in the loving preparations and joyful anticipation of the baby's coming. To the children in that household no false or wrong

impressions have ever come. They are safeguarded from evil. To them the coming of new life is surrounded, as it should be, with a sacredness and responsibility born of a pure and wisely given knowledge. In pitiful contrast to this is the stealthily acquired, half comprehended, and wholly false-in-feeling knowledge of the majority of children in our public schools. Teachers furnish overwhelming evidence that there are few children over eight years old in the public schools who have not some sort of knowledge of the origin of life, and it is, perhaps, sufficient commentary on the kind of knowledge to add that the children regard the subject as something secret and shameful. Unquestionably the home is the place for this kind of instruction, but unfortunately there are too many fathers and mothers who are either unwilling or unfitted to give it, and the educational expert who can devise some scheme for wise and systematic instruction, adapted to the age of the child, and furnishing it with a safeguard against corrupting influences, will do more for the moral welfare of the community by the prevention of evil than any number of crusades against evils already existent. The power of an idea in a child's life is very great, and false and depraved associations may so corrupt and influence the thought of the child that the baneful influence may linger through life. In regard to the manner of teaching, Miss Sullivan's perplexities with Helen Keller[1] and her solution are suggestive. In August, 1887, less than a year and a half after Miss Sullivan first came to Helen, who was then seven years old,—she wrote the following lines in a letter to a friend: "I do wish things would stop being born! new puppies, new calves and new babies, keep Helen's interest in the why and wherefore of things at white heat. The arrival of a new baby at Ivy Green the other day was the occasion of a fresh outburst of questions about the origin of babies and live things in general. 'Where did Leila get new baby? How did doctor know where to find baby? Did Leila tell doctor to get very small new baby? Where did doctor find Guy and Prince? (puppies) Why is Elizabeth Evelyn's sister?' etc. . . . From the beginning *I have made it a practice to answer all Helen's questions to the best of my ability in a way intelligible to her*, and at the same time truthfully." "Why should I treat these questions differently?" I asked myself. . . . I took Helen and my Botany, "How Plants Grow," up a tree, where we often go to read or study, and I told her in simple words the story of plant life. I reminded her of the corn, beans, and watermelon seed she had planted in the spring, and told her that the tall corn in the garden,

[1] Helen Keller: The Story of my Life. New York, 1903.

and the beans and watermelon vines had grown from those seeds. I explained how the earth keeps the seeds warm and moist, until the little leaves are strong enough to push themselves out into the light and air, where they can breathe and grow and bloom, and make more seeds from which other baby plants shall grow. I drew an analogy between plant and animal life, and told her that seeds are eggs as truly as hens' eggs and birds' eggs,—that the mother hen keeps her eggs warm and dry until the little chicks come out. I made her understand that all life comes from an egg. The mother bird lays her eggs in a nest, and keeps them warm until the birdlings are hatched. The mother fish lays her eggs where she knows they will be moist and safe, until it is time for the little fish to come out. I told her that she could call the egg the cradle of life. Then I told her that other animals like the dog and cow, and human beings, do not lay their eggs, but nourish their young in their own bodies. I had no difficulty in making clear to her that if plants and animals did n't produce offspring after their kind, they would soon cease to exist, and everything in the world would soon die. But the function of sex I passed over as lightly as possible. I did, however, try to give her the idea that love is the great continuer of life. The subject was difficult, and my knowledge inadequate, but I am glad I did n't shirk my responsibility; for stumbling, hesitating, and incomplete as my explanation was, it touched deep, responsive chords in the soul of my little pupil, and the readiness with which she comprehended the great facts of physical life confirmed me in the opinion that the child has dormant within him when he comes into the world, all the experience of the race." If, in the case of this child, blind and deaf since she was eighteen months old, and limited in language to the acquisitions of one year, the problem could be brought within her comprehension to the extent shown above, and touch "the deep responsive chords," which in all normal children answer so readily to the skillful touch, there surely need be no fear that such instruction cannot be successfully given to children who are not thus limited. The aim in moral education should be to forestall and prevent evil, rather than to devise means for its cure after it is already existent.

Very young children, if normal, will never fail to be very curious about the advent of a new infant stranger in their family. Here it would seem that certain provisional answers to their inevitable questions are necessary for years too tender either to understand or to respect reserves that society demands. Their questions, however phrased, call for but little in the way of answer, and it would be mere pedantry and affectation to deluge a three year old child with physiological

explanations in detail. It is, however, essential that the myth should be such as to give some impression that the mystery is something sweet and sacred, and if we had a complete collection of answers,—the milkman, the stork, the doctor, the gardener, God, the angels, etc., as bringers of the new baby—we should find very great differences not usually sufficiently recognized and respected. To do this, and to devise a mythic answer that is true to the heart, instincts, and needs of the child in this brief period, is a pedagogical problem still open for solution.

A little later, perhaps at four or five years of age, the curious child can be told of the babe's relation to its mother's body, and this suitably illustrated from the plant world. The mother's body and her functions are far nearer to the child than those of the father, and it is she who should perform this holy pedagogical function, and make it all as natural as possible by well chosen analogies, of which biology now affords such a copious repertory. Interest in the male function normally comes much later, and the devotees of excessive frankness no doubt often do much injury by developing a precocious interest in it. To deal suitably with it is a far more difficult problem, and our failure to solve it is probably seen in the fact that curiosity at about the average age of eight increases in intensity at the same time that it appears from our returns to vanish because it becomes so secret. Probably this is about the age where this curiosity is not only ripe for instruction, but needs it in order to prevent the pollution of the youthful mind by gross images that are outlawed by decency as well as by ethics. Nature seems almost to have provided the average child at this age with a special organ of apperception in this field, and we have here a great and challenging problem to solve. Curiosity is intense, and this constitutes a rare opportunity for parental tact and wisdom. Perhaps, as some have suggested, it is the duty, hard though it often be, for mothers to instruct their daughters, and, as some think, their sons, although it is difficult to see why the father should be exempted from this obligation, unless we assume that the mother is more normal, nearer the race, and essentially purer in heart than the father. Certain it is that these highly sensitized juvenile minds can, by eight years of age, be so told of the modes of fertilizing flowers that some of them will begin to divine analogies with the animal world. The phenomena in the latter probably ought to be taught for the simpler forms first rather than the higher, and the indirect psychic functions of love, and the meaning of marriage, are modes of approach which may give due sacredness and solemnity to this instruction. Another principle is clear, viz., that information should be personal, given on the right

occasion of environment and interest, and that it should be brief and suggestive rather than by dissertations or books that always magnify the topic. The greatest content in the least form is a good law. Much anatomy is unnecessary, and every allusion to the sexual act, if this is necessary, should be set in a background of sentiment and religion, or at least of romance, which will give it a perspective that is true to its ideal and to the interests of the race. The principle of good taste should be strongly evoked to expurgate dirtiness, and the child made to feel an insight so much superior to the information derived from surreptitious sources that it will look down on these as vulgar. It seems a grave pedagogical error, involving no end of calamity, that when interest in sex awakens it should be allowed to develop independently of the ideas of gestation and birth, with which, when it is taught, it should be brought into inseparable unity. In this, as in the theological field, there are generally so many preconceptions to be removed that it is often hard to distinguish pure and unadulterated curiosity from that which is spurious, factitious or distorted.

Religious Curiosity. Closely connected with questions in regard to the origin of life, and frequently mingled with them, are the theological and Biblical puzzles which assail the childish understanding. Over and over again come the questions, "Who is God?" "Who made God?" "Who were God's father and mother?" "Who came before God?" Often these questions take crude and bizarre forms that have an irreverent sound to the older ears, though they are but the efforts of active little brains to bring the incomprehensible within the limits of experience.

That the story of creation, as given in Genesis, should arouse in the mind of a child of four or five, visions of a sort of mud pie process of construction, or that he should picture God as engaged in baking bread in answer to the petitions addressed to him, is but one of the natural results of the literalness of childhood. The child's thought cannot transcend his experience. Nor should he, because of this, be considered as lacking in reverence. His imaginings are certainly no more realistic than those of the early Christian painters who depicted Eve as actually issuing full grown from Adam's side. The little philosopher of five who asked, "Does God make some little boys good and some bad?" was facing a problem which has puzzled the brains of theologians for centuries. Frequently, it is only through some of these occasional questions that we can get a clue to what is passing in the child's mind, for with all their frankness, children are often singularly reticent about

what they think and feel most deeply. To any one who is accustomed to being with children, the following examples will probably seem familiar and suggest a host of similar questions.

M., 4. Shown a picture of the Golden Calf and told that it was worshipped by the people. "Auntie, I wonder if it is all made of gold? Do the people worship it as we worship God? Why do the people worship it?"

M., 4. "Mamma, who is God's mother?"

M., 4. Had been gathering shingles and asked, "Mamma, do they play with shingles up in Heaven?"

M., 4. First visit to the seashore. "Who made the ocean?" "God." "Well, who made God?"

M., 5. "Mamma, what is the sun? Don't you suppose that it is the end of God's cigar?"

M., 5. "Does God make some little boys good and some bad?"

M., 4½. Having been told the story of Christ calling his disciples, asked, "What did they do with the fish?"

F., 5. "If we did n't have any bread would God give it to us?"

M., 6. "Mamma, does Jesus have an oven up in heaven?" On being told no: "Well, then, how does he bake our daily bread?"

M., 6. "When Jesus was a baby did he know as much as God?"

M., 7. After listening to a number of Bible stories: "Well, if God made all those good men and is so good, I'd like to know who made him."

M., 9. Had his curiosity aroused in Sunday School and was not contented till the story of Noah had been told over and over.

Is Ish Armour my brother? What makes him black? Am I black? Why is he white and me black? Had been taught we are all children of Adam and Eve and therefore all brothers.

F., 3½. Used to hearing God spoken of as Jesus. One day her mother spoke of God. "God, who is God?" "Jesus is God." "Oh! is his name God and Jesus too?"

F., 3½. "Did Heavenly Father make your hair? Did Heavenly Father make that hair that you take off?"

F., 7. "Mamma, if I am naughty at night, God can't see me, can he?"

F., 7. "Did God make me? Did he make you? Did he make pigs? Well, then, why did n't he make you a pig?"

F., 9. "If God will keep us, why do we have to pray to him to keep us through the night?"

F., 12. Used to ask how Jonah could come out of a whale's body alive. How Jesus could walk on the sea, etc.

F., ? Asked what God did in Heaven and if he ever took a walk.

F., ? "Mamma, who made you?" "God made me." "Who made me?" "God made you." Sometime passed. "Mamma, where does God have his office? Where does he get so much stuff to make you and me? What did he make us for? How did I get down from Heaven?" Not getting satisfaction she sighed and said, "Does God have an office like other men?"

F., 7. "If God made everything and everything had a beginning when did God begin? Who made God and was there another world like this earth?" But could never see why God did not have a beginning once upon a time.

The crudity of some of these ideas is but a natural stage of development and outgrown at a later period, but some childish misconceptions lead to serious results later, and it is a ques-

tion whether unskillful, even if well meant Sunday School teaching is not responsible for a vast amount of scepticism in later years. The order in which religious truths should be taught, and the form in which they should be presented, is one of the great pedagogical questions which as yet remains unanswered. It is certain that the haphazard teaching which prevails in most Sunday Schools has, to say the best of it, very mixed results. Several attempts have been made with deaf and blind children to guard their early ideas from the misconceptions which beset most children in the course of this theological training, and to await the spontaneous awakening of interest in the great problems of life and death. These attempts have been frustrated as far as their scientific import was concerned, partly by the well meaning but mistaken endeavors of those who did not realize the danger of misconception that might do permanent injury. This happened both in the case of Laura Bridgeman and Helen Keller, though fortunately, especially in the latter case, little harm was done, as the form of attempted instruction was unsuited to her comprehension and made but little impression. But when Helen was eight years old, having then been under Miss Sullivan's care for two years, she asked spontaneously "Where did I come from and where shall I go when I die?" The explanations which she was able to understand at this time did not satisfy her, but two years later the questionings of her active intelligence reached a point where definite religious instruction was demanded and she was placed under the wise care of Phillips Brooks. At that time she was asking such questions as "Who made the real world?" and when it had been explained to her as far as possible, "Who made God? What did God make the new world out of? Where did he get the soil and the water and the first seeds and animals? Where is God? Did you ever see God?" Probably many of these questions would have come at an earlier age had she not been shut in a world of darkness and silence from the time of her illness, in 1881, till the spring of 1887, when Miss Sullivan opened for her the door of communication with the outer world. But to all children, sooner or later, these questionings come, and the questions themselves are the best guide for tracing the course of the child's thought and finding out its needs. The practical character of childish thinking comes out very plainly in the questions on death and Heaven; the question of eating coming up very frequently in this connection.

F., 6. "Mamma, do the angels have nothing but angel's food to eat? What shall we have to eat in Heaven?"

F., 6. "Mamma, where do you go when you die? Will you go with me? Will we both be put in the same box? What will we have to eat?"

Death. The attitude of most children between three and seven, toward death, seems to be chiefly one of curiosity.[1] Occasionally a sensitive child reflects the feeling of those about him, but usually the attitude is one of inquiry. The first experience of death often comes to children in the death of some pet animal, or perhaps from finding the bodies of dead birds or insects. The impression made is not usually a painful one, but curiosity is aroused and numerous questions are asked, and upon the character of the answers given the child's feeling is chiefly dependent.

M., 6. Had an interesting story read to him. In the story the man died. Went away by himself and said over and over to himself, "Why did he die? Why did he die?"

F., 4. Saw a man climb an electric wire pole and asked the lady with whom she was: "Addie, will you go to Heaven whole?"

F., 8. Used to wonder what she was, why she was living, whether life was real or only a dream. At one time half believed that she lived two lives, one by day and one by night. Never had courage to ask anybody about such things. In other matters was always asking Why? and What for?

F., ? Strong curiosity about death. Desired to be dead just to see how it felt.

F., 7. "Why do people die? Why do they put them in the ground? Do they always stay in the ground or do they go somewhere else?"

The child's interest in death is another great opportunity for moral, religious, and even scientific instruction, which has not only never been met but perhaps has never been adequately appreciated. Infant curiosity, as we have seen, often focuses on its physical phenomena, and it seems singular that so often there is, at first, no fear. In many cases the birth of terror can be seen in very young children when they first distinguish a corpse from that of a person in normal sleep. Rarely, indeed, would curiosity as to how it feels to die, prompt the youngest child to seek to experience death, but often in the history of the race, as in children, heaven is made so attractive as to lessen the love of life and even to counterbalance the fear of death. Perhaps the pains of hell have sometimes been necessary to offset the attractions of heaven in the young, when the latter was made too seductive, so that a little sense of danger, stimulated by awakening qualms of conscience, was needful. One thing is certain, and that is, that death, where taught, should first be presented as the natural and necessary end of a long life, so that the prevailing ideas of it in the young should not be derived from instances of premature, accidental, or tragic death. In this respect, and from this standpoint, the ostensive instance of Jesus, who was killed and did not die a

[1]Colin A. Scott: Old Age and Death. *Am. Jr. of Psychology*, Vol. VIII, p. 93.

natural death, is often misleading. Death at the end of an ideal old age can be so taught as to make it not only natural, but beautiful and attractive, especially at the age of adolescence, when the first realization of it sometimes haunts the soul with great persistence. Youth is not complete without frankly envisaging the great fact that individual life is limited in time, and that the inevitable hour is for all alike. Death, at this age especially, is a muse of great inspiration and can evoke and sustain high ideals. It may be taught as an examination, test, or moral assay. Immortality is biological, and great stress must be laid upon the fact that the good we do will live after us; that one of the best ways to die is, as the Buddhists say, in thinking on our good deeds; and that the soul must be made so virtuous, and the mind so glorious with great ideas, that God, or the universe, cannot afford to have it perish. They should be taught that the sting of death is to die without leaving the world better. Youth can be appealed to powerfully by the thought of leaving a name, a record, a memory, that will be cherished by those who come after, and later the concept can be made of great practical power that life must be so led that children shall be well born and perpetuate the race in increasing numbers to the remotest generations. If all this is well done, the problem whether the individual consciousness survives in a transcendent world, will lose its difficulties and its dangers, both moral and intellectual, and can be met with frankness and left to the domain of hope and faith, where Jesus placed it, with due care to avoid premature theological subtleties.

Perhaps nothing gives a clearer view of the activity of a child's mind, and its various interests, than a list of miscellaneous questions selected on no other basis than that they show thought and observation. The kaleidescopic picture thus presented is far more than a list of amusing questions at which we may smile and wonder how such ideas ever entered the child's mind, for it reveals the actual workings of the mind in a way not otherwise obtainable. Some times, all unconsciously, these questions reveal certain facts of the child's environment in an unmistakable way. A list of all the questions asked by a child during a week or a month would probably furnish material for a very fair guess at the child's interests and surroundings.

F., 2½. Asked if black people were made of black dust.

M., 3. "Will the trees all have the same leaves again?"

F., 3½. "Seeds are brown, are n't they, mamma?" "Yes." "But the flowers are n't brown, why are n't they?"

M., 4. "Where does the stocking go when a hole comes in it?"

M., 4. On being shown his baby brother: "What is he good for anyway? Can he play ball?"

F., 4½. "How do the chickens crow?"

F., 5. Wondered why a chair was called a chair and she was called a girl.

F., 6. "Are there any fairies now? Did you ever see one?"
F., 6. Wanted to know why the minister flung his arms about so much.
F., 6. Asked if she was wound up; wanted to know if she would run down?
M., 5. "Papa, why don't your eyesights get mixed when they cross each other?"
M., 6. Wanted to know what was inside us to make us laugh.
M., 5. Playing with the cat: "Why can't Titty Tay talk?"
M., 5. "Why does my goblet sweat?"
M., 5. "Shall I be a mamma when I grow up?"
M., 6. Looked closely at a sweater and asked "Where is the buttons on that coat?"
M., 7. On being told that George Washington never told a lie asked: "What ailed him? Could n't he talk?"
M., 6. "Why does n't God read the weather reports and have the weather right?"
F., 5. "Does a hen ever get nervous? Who was the mother of the first horse that ever lived?"
F., 6½. "Why do the angels never fall down to earth when there is no floor to heaven?"
M., 7. "Where is to-morrow?" "What is the highest number you can possibly count?"
M., 7. "Why does a square piece of wood look round when the lathe is working?"
F., 7. "Is the tick of the clock round or square?"
"Why did grandpa wind the big clock? How could his winding it up make it go all the week? Did the Lord make it go?"
F., 7. "What makes my eyes open and close?"
M., 8. "What makes the old rooster walk different from the old hen?"
F., 8. Was eager to know what sleep was and declared she had never been asleep.
F., 8. "Do dogs ever have the headache?"
F., 9. Asked a great many questions when her mother was making cake. Next day made some herself successfully.
F., 12. "Say pa when you sneeze, where does the sneeze go to?"
M., 12. "How can far off things look near?"
M. "Why do some people have red hair and some black?"
F. "What are debts? do we have debts?"

Mere aimless curiosity or inquisitiveness plays but a small part in the incessant questionings of childhood. Every normal child is curious but their reiterated questions, which often seem tiresome to a busy and tired mother, are prompted by a real desire for information; and the child's point of view was well expressed by the little fellow who, when told he must n't ask so many questions, sighed, "But there's so many things I want to know." Of the more than twelve hundred cases of manifestations of curiosity, only 5.62 per cent. came under the classification of mere inquisitiveness, either in the form of questions or illegitimate peeking and prying shown by actions. Under this heading were classified all cases of aimless prying into what could have no objective interest and all attempts to find out, by illegitimate peeking and prying, things intention-

ally concealed or forbidden. In this sense inquisitiveness is not a characteristic of children under five years, and their incessant questioning and investigating is distinctly utilitarian and a developmental process, while inquisitivenesss in the specific meaning given above is a perversion of a natural impulse toward a useful end, to what is useless and frequently involves an element of deceit. It is closely connected with defective power of attention, for children whose interests are strong and whose attention is absorbed by these interests are rarely inquisitive in this derogatory meaning of the word. It differs from legitimate curiosity, not in its nature but in its application. The mere fact that anything is concealed or not intended for inspection, appears to act as a strong stimulus to some natures, whether or not the object is in itself interesting. Probably the primitive impulse to investigate whatever is concealed, is the fundamental element here, and the abnormal development is due chiefly to a lack of inhibition and restraint. In both children and adults it is most frequently associated with neurotic tendencies and frequently with a more or less defective physical development. Manifestations of inquisitiveness are too well known to need illustration. Peeking and prying into parcels, closets, trunks; peeking and listening at keyholes, behind doors or other places of concealment; desire to know what every one is talking about; efforts to overhear things not intended for them, questions about private affairs of others are well known characteristics of the Paul Pry order of person, and as this morbid form of curiosity, apparently grows by what it feeds upon, its existence in a child as a marked characteristic should be considered reason for an inquiry into the child's nervous condition. Though occasional exhibitions of this perverted form of curiosity are common enough among normal children, especially before Christmas, when desire to find out what their presents are to be, frequently overcomes the scruples which usually inhibit such manifestations, these occasional lapses, especially where there is a strong temptation from personal interest, are not at all to be considered as symptoms of neuropathic conditions, as in the case of the characteristically inquisitive child.

Echolalia or the constant repetition of the same question, which becomes so wearisome to the one answering, seems also to have a close connection with nervous fatigue. The questions are asked, not for information, but because, under certain conditions of fatigue, it seems as if certain nervous paths of discharge were established and the repetition became almost[1] automatic. Many of these cases of echolalia are reported as occur-

[1] Clouston: Neuroses of Development. London, 1891.

ring toward the close of the day, or on long railway journeys, or when the child is "not quite well" and has been kept in the house for that reason.

Random questions, which are sometimes poured out in an incessant stream, without pausing for answer, are also frequently due to fatigue and are often a characteristic of feeble minded children. One child who had sufficient intelligence to act as guide through quite a complicated route of short streets, asked disconnected questions constantly during the walk of about twenty minutes. Sometimes an answer was waited for, but in many cases, the attention wandered to new subject before an answer could be given and the former question was apparently forgotten. The mental condition appeared similar to that of a normal child too fatigued to remember his own questions, but in the one case there is defective development of the nerve cells and in the other the fatigued nerve cells are capable of recuperation. One child of five yrs. after a long railway journey, during which she had become very tired and fretful, responded to the effort to amuse her with the frost on the car window, by asking the same question in regard to it twenty-two times in half an hour, and every one who has tried the experiment knows the difficulty of holding the attention of a tired child for more than a few minutes at a time. The tendency to echolalia is observable in some forms of delirium, where the same question or sentence is repeated over and over, and the cause, as with the tired child, is to be sought in the fatigued cells of the cortex. Children, undoubtedly, sometimes ask questions merely for the sake of talking and not because of any particular desire for information, and should, of course, be checked under such circumstances; yet the boy of six, when asked: "What does makes you so tiresome, to-day?" replied far more aptly than he knew, when he answered. "I'm not tiresome; I'm tired."

Destructiveness as a phase of curiosity, is too frequently misunderstood, and the child's point of view left out of account. The *motive* is overlooked, and, considered only on the side of results, the case is certainly rather bad for the child. Out of the 1,227 cases which furnished the basis for the present study, 332 or 27.08 per cent. involved destruction of property: for the most part toys, or the child's own belongings, but in some cases objects of considerable value. The age at which this overwhelming desire to find out the construction of things reaches its height, is between four and eight. There appears to be little difference between boys and girls in this impulse to investigation, though the objects destroyed differ somewhat. The distribution of cases according to objects destroyed is as follows:

	M.	F.
Musical instruments,	44	+ 22
Clocks and watches,	57	+ 25
Dolls,	12	+ 66
Mechanical toys, etc.,	20	+ 22
Miscellaneous objects, to see what was inside,	21	+ 31
Thermometers,	2	+ 2
Miscellaneous,	12	+ 16
	168	+ 164 = 332

As considerable pains has been taken by the observers who answered the syllabus to find out the child's real motive, and cases in which this precaution was wanting have been rejected, the evidence is conclusive that in the 332 cases of which use has been made, wantom destructiveness or carelessness played a very small part. Curiosity as to the cause of sound and motion, and desire to see the inside of things, were the chief motives which influenced the youthful investigators. They wanted to find out "what made the noise," "why dolly opened and shut her eyes," what made the "cow moo," and what was inside tops, marbles, and thermometers, and grief at the loss of some valued toy was aggravated by a keen disappointment at non-success in finding the noise of the drum or the tick of the watch. Cherished dolls were sacrificed to the overwhelming desire to find out what made the eyes move or why pressing the body caused a cry. One child cried bitterly after she had spoiled her doll by poking in its eyes, not because the doll was ruined, but because, as she tearfully explained, "Now I can't ever find out what makes dolly shut her eyes. Won't you buy me another one so I can find out?" Numerically, at the head of the list of objects destroyed, stand clocks and watches, many of them toys, though the list is by no means restricted to these. In the younger children, desire "to find the tick" is the ruling motive, but this develops into the larger interest in motion and the desire to find out what makes the watch go. The injury done is frequently an unexpected result to the child. So keen and widespread is this interest in clocks and watches, even when not exhibited in the destructive form, that the gift of a cheap clock with permission to take it to pieces, affords more pleasure to many children than any number of costly toys whose mechanism cannot be investigated.

Several instances were given in the returns, in which an old clock has proved a source of interest and amusement, and boys of nine to twelve years, after numerous trials, succeeded in putting them together after taking them apart, a feat which certainly has sufficient educational value to compensate for some failures at readjustment. Mechanical toys, more than

any others, seem to have the shortest existence in the hands of bright, active, children, a fact which suggests that toys so constructed as to show principles of motion and elementary physical laws, without involving their own destruction, are an educational need yet to be supplied. Some such, indeed, already exist, but they are far too few and too little known. This destructive form of curiosity, due to normal development of mentally active children, needing guidance, and to be furnished with a proper outlet, but not repressed, is not to be confused with the careless destruction of toys, due to lack of interest, which is unfortunately common in children whose interest and powers of appreciation have been weakened and dissipated by overloading them with toys and diversions until it has bred in them an ennui which has sapped their power of attention, and left them incapable of self entertainment. Healthy children, if allowed to develop under normal conditions, find interests and amusements for themselves, and the child who has been so reared that he wants to be constantly amused, and has no keen desires because they have been too frequently anticipated, has been deprived of one of the rights of childhood. The child who suffers from too many toys is, perhaps, on the whole, more to be pitied than the child who has too few. Destructiveness, when the impelling motive is curiosity, is closely allied to constructiveness, and some of the appended examples mention the transformation which has appeared at a later stage of development.

Examples of Destructive Curiosity.

M., 3. Broke his toy gun to find out what made the noise.

M., 3 yrs. 7 mos. Broke a toy cow "to find the moo." Broke a mechanical toy to find out what made it go.

M., 4. Pulled a clock to pieces to find out what made it strike. When twelve years old could put a clock together.

M., 4. Cut open a doll to see if blood would come.

M., 5. Took a toy watch apart to find out what made the hands move.

F., 5. Cut her doll's body open "to see what kind of blood it had." Said it was something like sugar.

F., 6. Broke her doll to see what made it shut its eyes.

F., 6. Took off the back of the doll's head to see what made its eyes move.

F., 8. Had a doll, and one day knocked its eye in. Broke the head to find out what had become of the eye and then cried as if her heart would break.

M., 8. Destroyed a clock, trying to find out what made it go.

M., 8. Took a clock apart and put it together again, though it never struck properly afterwards. Took a wringer apart and put it together again correctly.

M., 4. Broke a humming top to see what made the noise.

M., 12. Took a mechanical toy to pieces to see what made it go. After several attempts succeeded in putting it together again.

M., 6. Disappointed in the result of questions asked about a watch; opened it to see how it was made. Opened fire crackers to see what was inside.

M., 8. Broke a tape measure to find out how the tape was drawn in.

M., 4. Had a toy rooster which crowed; broke it to see what made it crow.

F., 8. Had heard that tortoise shell will not burn but that celluloid will. Collected all the side combs in the house and tested them to find out whether they were tortoise shell.

M., 4. Cut the hair of his sister's doll to see if it would grow again.

M., 8. Dropped a toy engine from third story window so that it would break and he could find out what was inside it.

F., 6, M., 7. Each received a large Easter egg. There was a glass at the end to look through. Both broke their eggs to see what was inside.

M., 6. Took a toy steamboat to pieces to find out what made it go. Tried to put it together again but failed.

M., 7, F., 8. Broke the thermometer by putting it on the stove to see how high the mercury would rise.

M., 5½. Pulled a toy engine apart "to see where the 'choo choo' was."

M., 6. Had a mechanical coach. Tried to open it with a knife and hammer to find out what made it go.

F., 7. Broke marbles to see what the colors were made of.

M., 6. Broke open a toy violin to see where the noise came from.

M., 5. Broke his drum to find the noise.

M., 4½. Had a gong on wheels; made a great effort to see what was inside it. It was iron, and he did not succeed. At last he put it in the road and let a cart go over it.

M., 7. Had a small rubber ball with shot in it. After vainly trying to see what made the noise, took a hatchet and cut it open.

F., 9. Took a music box to pieces; found she could not get it together again.

F., 8. Destroyed a cuckoo clock trying to make the bird come out.

M., 8. Destroyed a toy piano trying to find out how it was made.

F., 5. Had a bank in the form of a frog; took it apart to see what became of the pennies that went into its mouth.

M., 5. Took a mouth organ apart to see what made the noise; broke a toy horn for the same reason.

M., 6 and F., 7. Smashed a large colored glass marble to see what was inside.

M., 7. Smashed a glass paper weight to find out how the little pieces of glass were put inside.

Desire to Travel. The desire for travel seems well nigh universal in the American adolescent, only three in the entire number of those answering this question (482) stating that they had never had this desire. There are but few cases in which this desire developed before the age of ten. The initiative of this desire is found either in stories told by friends who have travelled or in books. Among juvenile books the "Swiss Family Robinson" has the largest number of mentions by both boys and girls, and "Robinson Crusoe" has the largest number of mentions by boys. When this desire for travel is aroused in those who have the migratory instinct strongly developed, there are a few cases of starting out in search of runaway adventure.

These, however, were chiefly children under ten, and nightfall proved a corrective to the spirit of adventure.[1] One case of running away from home at the age of fifteen, was stated to have been inspired by this desire for travel, but, on the whole, the influence seems to have been beneficial. In 40 per cent. of the cases, desire to travel led to interest in reading books of travel and in many cases this led to a love of history and kindred subjects. The influence of a book on the South Sea Islands in determining the career of an imaginative and home-loving child, has been vividly described by Peirre Loti in his "Roman de L'Enfant." But while this desire for knowledge of new people, places, and things is so wide spread, very few of the cases described in detail show indications of an interest sufficiently absorbing to prove a disturbing influence in the ordinary routine of life. Americans, as a nation, are accused of a restless desire for change which is detrimental to the best interests of home life, but the interest in travel, which is one of the phases of curiosity, and most active during the adolescent years, seems to have no necessary connection with the later development of nervous restlessness. It appears, rather, to be an intellectual development belonging to the age when the desire for new experiences of all kinds is characteristic.

In comparative psychology, though statements that certain *animals are curious* abound, no attempt has been made to trace the development of curiosity in either the ontogenetic or phylogenetic series, except, perhaps, by Romanes who essayed to group animals at different levels, according to their psychic development, and to correlate these with the different stages of human development. Romanes places insects and spiders on his third level, and it is in this group that he places the first appearance of curiosity, but he gives as an example of insect curiosity the tendency to fly toward any bright light or shining surface. But there seems to be no sufficient reason for attributing this tendency to any psychic impulse, since it is explainable on a purely physiological basis. Even in the human infant we do not attribute the first turning of the eyes toward light to any psychic impulse, but interpret it as a physiological reflex. On the next higher level, Romanes places fishes ; and here, perhaps, we have some ground for attributing a psychological impulse, though Prof. Sanford[2] considers even this somewhat doubtful. "They may, perhaps, possess the beginnings of Curiosity, if the luring by light is not a physio-

[1] *Cf.* Truancy as Related to the Migratory Instinct. L. W. Kline, *Ped. Sem.*, Vol. V, p. 381.

[2] Psychic Life of Fishes. E. C. Sanford. International Quarterly, Vol. VII, No. 2, 1903.

logical phenomena." Groos quotes Eimer as authority for the statement that some species of lizards are so curious that they may be captured by dangling a noose in front of them. A step higher, and the psyshic development becomes unquestionable. We have abundant evidence of curiosity displayed by crows, canaries and parrots, and nightingales.[1] A parrot with which some personal experiments were made, never failed to show curiosity in regard to the ticking of a clock. When placed on the mantel he invariably walked around it, examined it on all sides, stretched his neck to see the top of it, tried to look behind, and showed great excitement whenever he happened to get into a position where the tick was most plainly audible. Lloyd Morgan gives instances of curiosity in chicks, but considers their mental attitude as reducible to a simple "what," rather than "why," which involves more complex psychic factors. Cats, dogs, raccoons, goats, horses, cows and deer, all show curiosity in marked degree, and advantage of this fact is taken in hunting the latter by the method of luring by light. Scheitler calls the dog the most curious of animals, and calls attention to the fact that this trait greatly enhances his value as a watchdog, but most students of animals give the monkey precedence over all others in the development of this trait. Thorndike found that the attention of monkeys was very easily distracted, and considers the attention of animals as working always for immediate, practical associations, and below the grade of the passive attention in human beings, which in its development is closely connected with the acquisition of a stock of free ideas. Groos considers curiosity the only purely intellectual form of playfulness in the animal world, and says, "It is apparently a special form of experimentation, and its psychologic accompaniment is attention, which is indeed a requisite to the exercise of the most important instincts."

In curiosity, attention loses the purely utilitarian function which it has in connection with the cravings of hunger, desire, and the necessity of avoiding danger, and becomes play. Groos ascribes the primary reason for this sort of playfulness to a necessity for mental exercise. But since the new object may always prove advantageous, it also aids in the preservation of the species. In the higher animals, manifestations of curiosity closely resemble those of the child. One of the monkeys, a macacus rhesus, formerly used by M. Kinnaman[2] in his experiments, showed his curiosity in an unmistakable way when a closed box painted black on the inside, was placed in his cage.

[1] Scheitler; Thiersulenkunde, Vol. II, p. 342.

[2] A. J. Kinnaman: Mental Life of Two Macacus Rhesus Monkeys in Captivity. *Am. Jour. of Psy.* Vol. XIII.

He immediately came to the end of the cage where it was placed, examined it closely, touched it cautiously, and finally picked it up and tried to open it. It came open rather suddenly and he dropped it and started back. His curiosity soon overcame his timidity, however, and he picked it up again, smelled it, bit it, put his hand, and finally his head, into it. In all this the monkey was closely paralleling the stages of curiosity shown by children, though his attention was less concentrated and he was more easily startled than is the case with children.

The larger aspect of interest and curiosity is almost coextensive with the range of educability, but it is believed that this paper marks a decidely important advanced step toward a larger synthesis that has so long beckoned students of childhood, namely, the determination of intellectual nascent stages. Curiosity is the apparent, now partial, now dominant, motive in many fields where its importance has never been adequately estimated. For instance, Kline[1], and Arnett[2] have shown that the truancy and runaway motives are, in part, due to curiosity to see the world. Partridge[3] has shown that many take their first drink, or, perhaps, even acquire their first experience of intoxication, to see how it tastes or how it feels, respectively. Curiosity is very manifest in the infant stages of acquaintance with its own body.[4] Dawson[5] has given us suggestions for the order of development of interest in the personages and events and sentiments of the Bible. Many studies on the development of language and children, show stages of curiosity concerning the form, meaning, or even origin of words. Interesting illustrations of this theme, too, especially as related to association, and causal and other types of reasoning, are shown in the data presented by H. W. Brown.[6] Studies of suggestibility and the quest of certainty; like those by M. H. Small,[7] show many outcrops of the same motive. How essentially attention is dominated by interest or curiosity, all the laboratory and other studies of it show. How dangerous is the neglect of natural interest is elsewhere pointed out in the single field of physics.[8]

Important as we deem the results of this study, it is thus

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[1] Migratory Impulse, *Am. Jour. of Psy.*, Vol. X, p. 1.
[2] Origin and Development of Home and The Love of Home, *Ped. Sem.*, Vol. IX, p. 324.
[3] The Psychology of Alcohol, *Am. Jour. of Psy.*, Vol. XI, p. 320.
[4] The Early Sense of Self, G. S. Hall, *Am. Jour. of Psy.*, Vol. IX, p. 351.
[5] Children's Interest in the Bible, *Ped. Sem.*, Vol. VII, p. 151.
[6] Thoughts and Reasonings of Children, *Ped. Sem.*, Vol. II, p. 358.
[7] *Ped. Sem.*, Vol. IV, p. 176, and *Ped. Sem.*, Vol. V, p. 313.
[8] High School Physics, *Ped. Sem.*, Vol. IX, p. 193.

really only preliminary to a larger presentation of the characteristic outcrops of interest or the desire to know, which, when determined for successive ages and stages, will be the best and surest norm for ascertaining when all such matter can be taught with greatest economy and with most effectiveness, and will also shed great light upon methods of instruction. All this again shows very clearly how far we already are beyond the arid and abstract formulæ of Herbart. It may be that we shall sometime come to reflect that forcing knowledge upon unwilling minds, that are unripe for it, is immoral.

A question uttered, or unexpressed, is a prayer for knowledge. The moment when it arises in the soul should be sacred; almost like that of the hour of visitation of the Holy Ghost to the religious teacher. Not to feed every normal curiosity, the good teacher will consider recreancy to his duty.

Many questions, no doubt, arise, in the average mind but once in an entire lifetime, and if the opportunity which they make is not promptly and effectively utilized, the bud of promise is forever blasted. Perhaps, in the future, education will realize the idea of being guided solely by these chief expressions of psychic need or want. For most of us, there comes for a time, most commonly in very early adolescence, an all-sided, disinterested curiosity, which is the basis of liberal education, but which vanishes later and is succeeded by a second growth of interests which are more and more tinged with utility, professional success, or individual advancement. When such studies as these shall be carried more fully into the later teens, this change from what we may call pure curiosity to that with an alloy of gain or advancement in it, will be more clearly seen. Indeed, few people in any community illustrate up to full maturity what man as man most centrally wants to know. One great purpose of education is to so place and to so environ a few individuals that they shall thus illustrate the deeper tendencies of race advancement, so that their interests shall point as truly as the needle to the goal of human destiny. This, we grant, is a very difficult problem, only partially attainable. Even the child's theological interests, as here illustrated, are more or less factitious, and very different in unknown and non-Christian lands and ages, and due to precocious doctrinal inculcation. They thus rest on a very different foundation, and have a very different culture value from the purely spontaneous interests in the varying phenomena and objects of nature, or even from that in things hidden, or in the mechanical secrets of toys, etc.

I. In summarizing the results of this study it appears that curiosity develops by gradual stages and is a fundamental factor in the development of attention.

II. Four stages of development may be recognized.

1. Passive staring, considered as a reflex with psychic accompaniment; manifested in infants as early as the second week of life.

2. Surprise, usually noted in the second month.

3. Wonder, which is observable about the end of the second month, the time when the accommodation of eye takes place.

4. Interrogation or curiosity proper, which begins to be manifested about the fifth month.

These last three stages are those recognized by Ribot:

III. The chief stimuli of curiosity during the first half year are those of sight. The order in which interest in other sensations develop is hearing, touch and muscle sensations, smell and taste. These do not successively predominate but overlap and sight, the first in order is not subordinated as other interests develop.

IV. Curiosity is manifested by: 1, observation, passive and active; 2, experiments; 3, questions; 4, destructiveness; 5, desire to travel.

V. Aimless curiosity or inquisitiveness is, in normal children, usually a sign of fatigue, and this is also true of echolalia. When chronic, both these manifestations indicate neurotic tendencies associated with defective power of attention and lack of inhibitory control.

VI. Curiosity is the active factor in the development of attention, and lack of it shows either mental deficiency or bad pedagogy.

VII. Animals show the various stages in the development of curiosity and manifest it, by observation as do human beings, experiment and destructiveness, though it is probable, that, except in the higher animals, the full stage of interrogation is never reached.

VIII. This work is provisional and a larger synthesis, with curves for each nascent psychic stage impends.

IX. A few practical suggestions concerning the pedagogical utilization of curiosity concerning death and the origin of life are appended.

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CHILDREN'S INTERESTS IN WORDS, SLANG, STORIES, ETC.[1]

By EDWARD CONRADI, Fellow in Clark University.

This paper embodies the results of the following syllabus, sent out by President Hall in the fall of 1901. The returns were written mostly by normal school students, a few being sent in by students of high school age. They are nearly all female.

The facts are presented first; the conclusions are given at the end of the paper.

SYLLABUS.

Will the teacher who receives this syllabus kindly co-operate by writing down (on one side of the paper only) any facts, experiences, or convictions which these questions may suggest; and will those who can do so try to gather information from their classes or by simple tests?

1. In what *new words* have you seen children take delight in knowing or using, whether these words are genuine or artificial?
2. Have you known young people to make spontaneous efforts to extend their vocabulary, noting lists of words with their meanings, and seeking to incorporate them because they were new and seemed superior?
3. What words have you known children to like because they were pretty in look or especially in form or sound, or because they were very peculiar, like murmur, zig-zag, *quid-nunc?*
4. What about the passion for affecting foreign words in conversation or writing, *e. g.*, French or Latin, when English words would do as well?
5. Describe cases of superfine elegance, or affected primness, or precision, in the use of language.
6. At what age are the young most prone to slang? Give a brief vocabulary of slang phrases that have been favorites (a) with girls and (b) with boys. What can be said in its favor, and what against it?
7. Give cases of the "long sentence" habit, where style has lost all symmetry and rambles on with incoherence and lack of form. What is the cause and cure of this? Can you classify its forms, beginning, perhaps, with the simplest, where the conjugation *and* connects a string of clauses?
8. Have you ever known a spontaneous story teller; if so, describe the case; when and how did it begin; what was the influence of, and effect upon, the hearers; what kind of stories were preferred and what kind of characters; were they short, long, or continued?

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[1] We are indebted for returns to Miss Lillie A. Williams, of the Normal School at Trenton, New Jersey; Prof. H. T. Lukens, of the Normal School at California, Pa.; Dr. Margaret K. Smith, of the Normal School at New Paltz, N. Y.; Miss Harriet A. Marsh, of the Hancock School, Detroit, Mich.

9. Have you known cases of a strong tendency to quote pretty phrases, perhaps especially in girls; the album kind of poetry, and give a few samples to indicate the kind of taste, the gratification of which is most commonly sought thus? Do conditional clauses often abound in a characteristic and excessive way? Examples, cause, and now explained.

10. Is there an adjectivism, nounism, adverbism, one or all of these, with examples and explanation?

11. Have you known cases of a reading passion or craze, where the soul seemed to take flight in books, and how was this reading done and from what motive? Was it for the pleasure of having the sentiments largely stirred, as in romance reading, or a real desire for information, or to show a long list of books read, or what?

12. Cases of aping the style of characteristic authors—Carlyle, Addison, newspaperism, sermonesque style, flowery, exuberant, or emotional style of novels. Have you known cases where style changed or came under other influences? What do you deem the value of this dominance for a time by the style of an author?

13. Cases of spontaneous poetry. Can you give examples? In what field lines, age, etc.?

14. What is the best basis of English composition, (a) incidents or events of interest in the life or observation of the writer; (b) paraphrases of great epics, stories, speeches, essays, etc.; (c) papers based on special and diverse reading on a topic; or (d) the results of long efforts to grapple with an author, Dante or Tennyson, far too large to be fully comprehended as a whole, etc.; and what is the advantage and disadvantage of each of these?

15. Can you name (a) pieces, (b) stories, and (c) authors, which your experience convinces you are calculated to do special good for individuals at a certain age?

16. What have been the best influences, literary and linguistic, in the pedagogy of your own department?

17. Can you suggest any literature on the subject of teaching English language, or literature that you think especially helpful?

Kindly send your replies to

G. STANLEY HALL.

CLARK UNIVERSITY,
Worcester, Mass., Dec. 9, 1901.

There were no returns to questions No. 16 and No. 17. They were probably too difficult for the students who wrote these returns.

To the question, "In what *new words* have you seen children take delight in knowing or using, whether these words are genuine or artificial," there were 273 returns. 92% of these were affirmative and 8% negative. 60% of them gave one or more specific words which the child liked. About 20% were observations and the others personal experiences and reminiscences. Six stated that they liked big words, and two that they liked words with z in them. Here follows an alphabetical list of the words given; figures indicate number of times given.

I.

accelerate	accomplish	accurately
acknowledge 4	accumulate	adage

admire
advantageous
aggravation
ail
Aix-la-Chapelle
algebra
allow
almost
ambitions
amuse
animosity
antipathy
apologize
appreciate
appropos
architect
artificial
ascetic
assist
atrocious 2
audacious
autocratic
automobile
avoirdupois
awful 3
axiom

baby 2
basement
Basil the Great
beautiful 10
beauty
beer
benevolent
boa constrictor
booboo
boomerang
bravo
breakfast
bric-a-brac
bright
bring 2
buggy
buzz

calculate
calender
calour
catastrophe
catechuman
catsup
chalk
championship
chemise
chow chow
chrysalis
chrysaston
circumstances
circumstantial 3
clamor
clever
clock
coboodie
cohere
collusion
combustible
combustion
come-bubler
comfortable 2
compaction
compliment
compunction
condescend
conductor
congratulate
consequence
consequent
consequently 2
conservatory
consign 2
conspicuous 2
Constantinople 7
contemptible 3
contemptuous 2
contrary
convent
crazy
crochet
cute 2

dare
darling
dear
deceitful 2
decided
delicious 3
delightful 4
despicable
diaphoretic
dictionary
diligence
dinny
dinner
directly
disagreeable
discourse
disgrace
dispatch 2
ditto
dodo
domestic
dub
dumbcat

education
Egyptian
either
electricity
elegant
embracing
encyclopedia 2
England
enormous 3
entertainment
equilibrium
especially
esquimo 2
Ethiopian 2
evaporating
evolution 2
exaggerate 3
examinations
exactly
excruciating
exuberance
exit
exquisite 3
extra
extraordinary 3
extravagant 3

fascinating
fatigue
faulty
favorite
festival
fetich 2
fine 2
fingerology
financier
flagrant 2
flowing
fluently
fond
forest
Fräulein
frost
funny

garrulous 3
gaseous
gaudy
gay 2
gee
genius
geography 2
German-carp
getup
glass
glorious
goody-goody
gorgeous
grand
grease

greenhorn
grinnie-minnie
gunnysack
guten Morgen
gute Nacht

handsome
happy
hateful
haste 2
heinous 2
hennycooked
Hiawatha
hippopotamus
hiss
Holland
Holy Ghost
honey
how-do-you-do
housekeeper
humbug
humdrum
humpty dumpty
hurry 2
hush

ill
illustration
immense
immediate
immediately
important
inane
indigence 2
indolent
industry
infinitessimal
influence
isolate
insultation
intoxication
intrust 2

jaws-of-destruction
jealous

kidnapped
knickerbocker

launched
lawn
literature
lieutenant
lobster
loquacious 3

magnificent 5
magog
mamma
mammy
mania 2
manicured
map
Martindale
maxim
Mayflower
melody
Minnehaha 2
minute
mirror
minister
Mississippi 3
mondamin
monkey
monotonous
moped
moving-van
murmur

Nansicaa
naughty
necessary
necessity
nervous-prostration
nevertheless
nice 2
nit 3
nomenclature
none
notebook
numerous

obligerated
occur
opportunity
opulent
ornithorhyncus

paddy
paltry
papa 3
participate
particular 3
particularly
passionately
peculiar 2
penknife
perambulate
perfectly 2
performance
perhaps
permit
perpendicular
pet
photographer
phthisis
picture
picturesque
pilgrim 2
pinkie-eye
pike
pitiful
Plymouth
placid
pneumonia
polygon
pompous
Popocatepetl
poverty
power
precarious 2
prepossessed
pressure 2
pretty 4
principal
priory
probably
promontory
promulgating
pronounce
property
prosecute
provoked
provoking
psychology
pussy

quaint
quiet

racket
rambling
ramborgogeous
realize
recluse
rectangle
recognize
recollection
refer
relinquish
remarkably 2
renounce
representative
rheumatism
robes
romance
Rox
royal
rude

sad
Sacramento
San Salvador
satins

satisfaction
satisfied
satisfrick
schedule 2
scrumptious
scruschy
sedate
shackins
shoot 2
silly
sister
Socrates
sodie
solace
speed 2
spinster
splendid 2
stupendous
stylish
sublime
succor
sufficient
surreptitious
superfine
supper
suspend
suspicious
sweet
sweet meats
synonyms 5

table
taciturn
talent 2
talkative
tea
tedious
temporary
theatre
through
Thule
tictalerue
tootiefulala

unhappily
unusual 2

Waddie
wake
water
whippoorwill
whiz
wigwam
wonderfully

yep-(yes)
yersm
yesum

zara
zebra 2
zig zag

When about 7 delighted in new words, not so much in using them as in saying them over to myself.

When 9 I repeated the word *knickerbocker* over and over again to myself. When alone repeated it aloud.

Between 8 and 10 I delighted in long words. I often put words together.

When a child I liked the sound of Constantinople.

When about 8 we heard the word transmagnificancubandanciability. We were delighted with it and changed the ending *ty* to *tious*.

When about 6 my twin sister and I took delight in adding new words to a language of our own.

The third inquiry, "What words have you known children to like because they were pretty in look or especially in form or sound, or because they were very peculiar—like murmur, zig-zag, *quid nunc*," was similar to the first and also elicited valuable replies.[1] There were 271 returns, 87% of which were postive, 8% negative and 5% did not answer this question. 38% liked words because they sounded pretty, 13.5% because they sounded queer and 7% did not state whether the sound that appealed to them was pretty or queer. 12.5% liked words because they looked pretty, 9% because they looked queer, and 5% did not specify whether the looks that appealed to them were pretty or queer. Thus, 58.5% liked words on account of sound and 26.5% on account of looks. 6.5% of all replies were observations and the others personal experiences and reminiscences. Furthermore 25% stated that they liked certain words but did not give reasons why. The per cents. in this case do not balance since some returns gave a liking for both sound and form.

[1]Per cents. in this paper are all based on the entire number of returns, unless otherwise stated.

A classified list of the words given follows here.

II.

Words that Sounded Pretty.

accusation
acquiesce
Ætna
Alexander
ambrosial
anguish
antedeluvian
asbestos
assized
aurora-borealis
ax

babbling
Baton Rouge
barouche
beautiful 6
bell
bombastic
Boston
breakfast 3
brook
bye-bye

Carthaginian
carmine
charming
chrysalis
cherubim
circle
cock
column
Connecticut
Constantinople 2
corn crib
corroborate
crazy
crisp
crotch
culver
curfew
curious

dash
day-day
delicious
difference
digit
Dorothy

electricity 2
engine
envelope
environment

Ernestine
euphony
exaggerate
extemporaneous

fairy
favor
fern
firmament
five
fizz
flop
four

garb
garrulous
globe
grace
gracious

happiness
haunt
hearth
herbivorous
heterogeneous
hodado
hollyhock

I. Pomroy & Co.
incarnadine

Jeremiah
jingle
Junto

Kathleen
Kelly
Kito

lilac
lisp
little 2
locomotine
locomotive
long
Los Angeles
Lorraine
Louise
loyalty
lullaby

magnificent
mamma

Margarette
martyr
Massachusetts
may
melancholy
meadow
Mesopotamia
Milwaukee
Minnehaha 2
Mississippi
mistress
murmur 7
murmuring 3

Naomi
Nazareth
necessary
Nellie
neighbor
"nichts-komm-heraus"
nine

oblivion
one
opportunity
ornithorhynchus

paper
paraphernalia
picnic
pig
plagiary
plash
precipice
pretty 5
promiscuous

quazy-wazy
quick 2
quintessence

rascallion
ring
ripple
rhododendron
rose
Ruth

sanguine
satiated
scat
scissors

seraph
seraphim
sharp
short
sing 2
silvery
skedaddle
slap
slippery
solemn
sparrow 2
squeeze
sublime
succasuma
superfluous
sur
sweetly

ten
terrace
thermometer
tick tock
tinkle
Trumbull
true
truth

un-zoo-wee
Ulysses
utilize

Virginia

Wannamaker
wasp
willow
whirl
whisper

Xantipede
Xerxes 2

Yangtsekiang

zephyr
Zerubbabel
zizzag 4
zone

Words that Sounded Queer.

audacity

babble 2
blitzen
bonanza
bubble 2
bugaboo
buzz

caterpillar
chimney
church
click
comet
cubit
curfew

Deuteronomy
donder

ecclesiastical
ecstasy

fizzle

goblin

heliotrope
higgle-de-piggledy
hurly-burly
hyacinth

idiotic
ignite

katydid
knicknack

lizard
lackadaisical

moon
murmur

Ohio
oriole

Paderewski
perambulate
polliwog
Popocatepetl

razzle-dazzle 2

ricket

salamander
schists
scrabble
scrumptious
seesaw
skedaddle 2
superfluous
sycamore
syzygy

topsyturvy

whirr 2
whoa
wobbled

Xerxes

Yangtsekiang

zigs
zigzag 9

Words liked on account of sound without specification as to *pretty* or *queer:*

aurora-borealis
Brahmapootra
bumblebee
buzz
cataract
circumnavigate
concoct
crochet
croquet
damnation
elephant
encyclopedia
" for instance "
helterskelter
Hiawatha
idiot
Jack
John
Joseph
murmur
Niagara
orangoutang
precipitate
presumptious
scallawag
society
tictac
twinkling
unique
Wannamaker
zebra
zigzag 3

Words That Looked Pretty.

Africa
Atri
ball 2
beautiful 2
book
Boston
brook
buzz
committee
cute
Cincinnati
circle
cozy
curly-wurly
dash
difference
Egypt 2
extremely
favorite 2
immense
Isaac
James
Jerusalem
jumping
latitude
Laura
little 2
Lizzie
locomotive
lovely
mamma 2
mason
Mayflower
May McCann
Mississippi 3
Missouri
murmur
nest
occasion
piggy-wiggy
Philadelphia 2
plash
poor
preposterous
purity
pygmy
quizzing
ripple
revolution
running 2
silent
sneezing
Succasuma
sweet
Tennessee
Trumbull 2
umbrella
Ursula
Washington
whizzing
Xerxes
yankee
zigzag 2
Zimmerman

Words That Looked Queer.

Artaxerxes
bazaar
beaux
bicycle
bouquet
braggadocio
business
buzz
Don Quixote
ecstasy
Egypt
Euphrates
Hawaii
helterskelter
Isabelle
Kalamazoo
lignum-vitæ
misshapen
Mississippi 2
mosquito
Ohio
picturesque
Pompeii
quibble
saucer
sauerkraut
seesaw
silly
skedaddle
syzygy
tableaux
topsyturvy
typhoid
Xenophon 2
Xerxes 4
zebra
zephyr
zigzag 7
zouave

Words liked as to looks without specification as to pretty or queer.

Brahmapootra
Cincinnati
Emma
Lizzie
mamma
Mississippi
murmuring

Words liked without any specification as to sound or looks.

abrupt
adorning
Anna
anxious
argue
arithmetical
aristocrat
audacity
awful
babble
babbling
beautiful 3
beautifully 2
bird
blizzard 2
boomerang
borrow
bubbling
bumblebee
bureau
butterbowl
buzz 4
buzzing 2
café
caoutchouc
catarrh
certainly
cheerful
chicks
clinging
cocoon

Constantinople 4
constellation
commencement
cringing
crochet
croquet

dazzle
decorate
delightful 2
disagreeable
doll
drum

Egypt
elaborate
electricity
evermore
examination
excavate
excellent
excelsior
excruciating
extraordinary

facsimile
fudgy

gazette
glorious
gracious

hazard
highflower
horrid
humdrum
humming 3
hyperbole

icicle
idiotic
immediately

Janette 2
jewel
jink

Lafayette
lancers
Laughing-water
literature 2
lovely
lullaby

magazine
magnificent 3
mamma 2
Maurice
Maurice Miller
melodious
melody
melancholy
Minneapolis
Minnehaha
minuet
mirror
Mississippi 12
moon
moose
murder 2
murmur 4
murmuring 2
myrtle

Nebuchadnezzar
Neshameny
nun

onomatopoetic
opposing
owl
ox

Pacific
pamphlet
pantomime
papa
papoose
parallelopipedon
pepper
Perely 2
perspire
Philadelphia
picturesque
pleasing
polite
poor
Popocatepetl 2
powerful
precipitate
pretty 4
progressive
promiscuously
pshaw
pussy

quaker

ragged
razor
repining
rhyme
ridiculous
ripples 2
ringing
Rose Reed
rough

sally
scrape
screech
sedate
"sentimental nonsense"
shamokin
Shoshone
singsong
sneeze
society
soon
stingy
superlabgabscious
Susie Smith
surly
sweetly
syzygy

tenacity
Tennessee
Thermopylæ
thwart
tick-tock
to-and-fro
toward
twilight 2

ujiji
very
voice

whirligig
wiggle-waggle
wigwam
Wissahickon
wonderful
wriggle 2

Xenophon
Xerxes 2

zebra 3
zinc
zigzag 9

As a child liked to use "argue." Made me use my tongue in a peculiar way.

As a child made up "superlabgabscious;" to me it meant something lovely or fine.

At 12 named my cousin Amy Ruth; liked sound of Amy and looks of Ruth.
Used to like to write words with the letters m, n, a, e, o.
Was whipped once for saying a word over and over.
Always liked "ecstasy" on account of queer looks. Even now, 18, I think it ought to mean crazy on account of its queer looks.
Liked to write committee. Liked to double letters.

To the second question, "Have you known young people to make spontaneous efforts to extend their vocabulary, noting lists of words with their meanings, and seeking to incorporate them because they were new and seemed superior," there were 263 returns, of which 60% gave affirmative replies, 30% negative, and 10% left the question unanswered. 13.5% had by spells studied the dictionary and 14% had made lists either of words heard, of words found in their reading, or both, 4% had tried to learn one or more words each day. Three stated that they did not use the new words they would have liked to for fear of being laughed at.

Of those who had studied the dictionary and gave their age 4 were 8, one was 9, 7 were 10, 2 were 11, 6 were 12, one was 13, 2 were 14, 2 were 15. Several had more than one spell. Of those who had made lists and gave their age 2 were 8, one was 9, one was 10, one was 11, 4 were 12, 2 were 13, 3 were 14, 3 were 15, 3 were 16, one was 17, 2 were 18, one was 19.

Studied dictionary, but did not get beyond a's, 2.
Took dictionary to find new words to astonish my companions.
Studied dictionary for big words; used them to dolls.
Studied dictionary, soon got tired. Had read life of Shakespeare and learned range of his vocabulary.
Used large words to talk to myself.
Kept list. Read three books that way.

"What about the passion for affecting foreign words in conversation or writing, *e. g.*, French or Latin, when English words would do as well" brought 233 returns. 23% of them had no desire to use foreign phrases, 7% were blank, and 70% replied in the affirmative, most of them being reminiscences and personal experiences. The age varies from 12-18, most being from 14-16. The languages given are Latin, French, and German, probably according to the one studied in the high school.

Writing to his mother filled half the letter with foreign phrases.
Learned foreign words from spelling book and tried to use them.
Would have liked to, but afraid of being laughed at.
Two girls used sodium chlorate and H_2O at home.
Studied some in the dictionary.
Used German words; liked to show my knowledge.
Used to pretend to talk in foreign language by using queer sounds and unheard of words.

"Describe cases of superfine elegance or affected primness

or precision in the use of language," elicited 233 returns. 14% left the question unanswered, 30% knew of no cases, and 56% reported one or more cases, mostly personal experiences and reminiscences. 75 cases gave their age as is shown in the curve on page 370.

Read about Franklin's way of acquiring good style. Then wrote a composition than which I never wrote one better—age 14.

I always prepared before speaking to any one till father corrected me—age 12-14.

Get spells that last several days at a time.

Several stated that they longed to be elegant but were afraid of being laughed at.

My roommate and I often take certain lengths of time in which we try to be elegant—age 17.

Often got short spells.

Now; study unabridged dictionary for that purpose—age 17.

Could not find words to express my feelings. I had grand and airy thoughts but could not express them—age 14-15.

Memorized expressions that seemed elegant, modified them and then used them—age 10.

Yes, at the age 13-16; since then became careless.

Girl, 18, has so changed her voice as to make one feel as if talking to an unreal person. She used to be an easy companion. Her tone is never twice alike.

"I used to mount a barrel in the barn and imagined myself some great speaker with thousands and thousands of the most cultured people, not only from the United States but crowned heads from Europe, come to listen to me speak. I would also think myself in some grand cathedral on a magnificent stage"—girl, age 11.

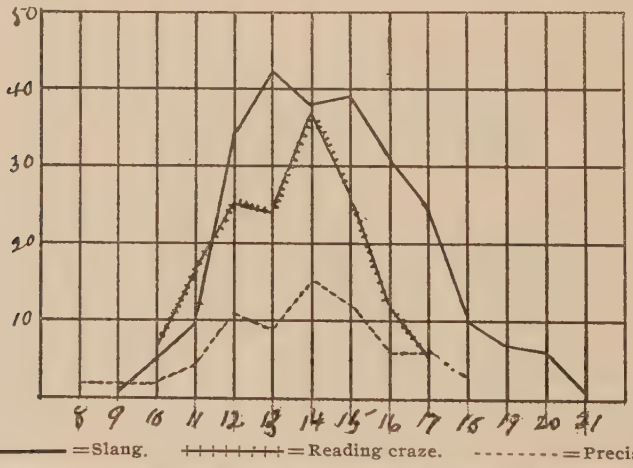
Girl, 10, has often been seen standing before a mirror, nodding her head, smiling, and talking to herself. When she tries on a new dress, she invariably goes to the piano and drums on it.

To the question, "At what age are the young most prone to slang? Give a brief vocabulary of slang phrases that have been favorites (a) with girls and (b) with boys. What can be said in its favor and what against it?" there were 295 returns—the greatest number we had to any one question. There were no negative returns and only 6 failed to answer this question. 254, or 86%, gave the age at which the young are most prone to slang as shown in the curve on page 370. Two had three spells, 9-10, 12-14, 16-17, and 9-11, 13-14, 16-17 respectively. Two had two spells, at 10 and at 19, and at 10 and 16-18 respectively. Two said they had used it always and one gave the age from 8 till death.

60 thought slang more emphatic; 36, more exact; 18, more concise; 15, more convenient; 3, that it sounded pretty; 3, that it relieved formality; 3, that it is all right; 2, that it is natural; 1, that it is manly; 1, that it is appropriate; 1, that it is enthusiastic; 2, that it leads to forming new words; and 4 said they simply imitated. 90 considered slang vulgar; 13 said it narrows one's vocabulary of good English; 11, that it leads to

swearing; 2, that it is a substitute for swearing; 2, that it shows weakness; and 1, that it destroys exactness. 53 considered boy's slang rougher than girl's; 19, that it resembled swearing more than girl's; 9, that they used more of it; 8, that they had more phrases; 2, that it had a broader meaning than girls'.

The following is a list of slang expressions classified roughly according to use. This classification is not intended to be vigorously scientific, nor is it supposed to be exhaustive, but rather to be helpful in bringing out more clearly the purpose that slang serves for the youth. Under each rubric there are 3 lists, (1) "Girls," (2) "Boys," and (3) "Sex not specified." But to avoid duplication the following scheme of figures was used. In "Girls" list the first figure or number indicates number of times given as used by girls, the second figure, number of times as used by boys, and the third figure number of times given without specifying sex. Second and third figures, when zero, are often omitted. In "Boys" list the figures are used in a similar manner, referring to "Boys" and "Sex not specified" respectively. Thus the common expressions of lists one and two and of one and three are tabulated into "Girls" list, and of two and three into "Boys" list.



A slang curve by Miss Lillie A. Williams reaches its highest point at 14. It is based on 61 returns that gave age. *Cf. Ped. Sem.*, Sept., 1902. Vol. IX, p. 289.

Rebuke to Pride.

Girls.

Go way back and sit down **37**—17—6.
You are not the only pebble on the beach **20**—9—1.
You are not so many 8—5—3.
There are others **10**—3.

You 're only one **4**—6—1.
You are not the only tin can on the dump **3**—5.
Don't get too gay **4**—4.
Don't get canary **3**—3.
You are not the only one **4**—2.
Gave me a call down **6**—0—1.
Come off **3**—2—1.
You make me tired **4**.
Ring off **3**—1—1.
Hold your horses **3**.
You 're not the ocean because there is a wave in your hair **3**.
You talk like a man up a tree **1**—2.
Come down a peg **1**—1.
He 's stuck on himself **2**.
Go way back and take a front seat **1**—1.
Dry up **1**—1—2.
Go to grass **2**.
You 'll get sat on **2**—0—1.
You 're not so much **2**.
You 're not so warm.
One on you.
Chase yourself around the corner.
Dry up and hist.
Not the only oyster in the can.
She has a crush on her.
You 'll get your headlights smashed in.
Don't get up on your ear.
Come off the band wagon.
You make me weary.
Oh, go (or get) along with yourself.
Go way back.
Shut up.
You 're not the only lump of butter in the churn.
Go back to the tall grass.
I guess that 'll hold you.
You 're not the only can in the rubbish.
They 're off their trolley.
Take a day off.
Give us a rest.
You big *it*.
Dry up and bust.
You 're not the whole push.
He has the big head.
You 're not the only cat on the fence.
You 're not the whole shooting match.
Enough of your jib.
Did you ever get left?
Down in front.
You think you 're smart.
He does more with his mouth than anything else.
Fade away.
Don't get new.
You 're getting too flip altogether.
You 're too smart.

BOYS.

Cut it out—**7**—1.
Come off your perch—**5**.
Get off the earth **4**.

You 've got a swelled head 1—1.
You 're not so swell 2.
You' re not in it 2.
Don't think you 're smart 2.
Choke it off 1—1.
He 's way up in G.
Don't get gay.
Go away.
You 're not the only thing.
Don't blow your horn too soon.
What do you take me for?
You 're not game.
Hold on.
Mind your own business.
He 's too smart.
Come off your roost.
Close your face.
Cut it short.
Just come down from the city.
You 're nobody's grandmother.
Go way back in the corn.
Take off your hat and show your corners.
Grease your lip and give your tongue a sleighride.
Swell head.
Get away from the lunch.

SEX NOT SPECIFIED.

Shining on your own side.
Close your face.
Hold your jaw.
Shut your trap.
Chop it off.
He thinks he's the whole thing.
He thinks he's the whole show.
He 's a yap.
He is a big head.
He gives me a pain.
Biggest toad in the puddle.
Big bug.
Cheap guy.
Chop it out.
He has the big head.
You 're not so warm.

NEGATIVES.

GIRLS.

Nit **35**—14—7.
O, I don't know **10**.
Not on your life **5**—2.
Never (or not) on your tintype **3**—4.
Over the left **4**—3.
In the neck **4**—1.
Rats **3**—2.
Guess again **4**.
Like sixty **2**—1.
Well, I should smile **2**—1—2.
I guess aber nit **3**.
I don't think **2**.

Not by a jug full **1**—1.
Like fun.
Git out.
Quit.
Is that so?
I have a large size photograph of your doing that.
You've got another think.
Like sand.
Ah, go on.
Nixy.
Phew.
Don't you believe it.
Not much.

BOYS.

Sour grapes 2—1.
I guess nit 1—1.
Last year?
Like blazes.
Yes, on your tombstone.
I don't think.
You will, will you.
Never in your sweet life.
I wish I thought so.
Well, I guess you wont.
Give it a worm.

OFF.

GIRLS.

Talking through your hat **4**—1.
He is off his base **2**—2—1.
She is twisted **2**—2—1.
Go sit on a tack **1**—2.
That 's off me **1**—1.
Got a screw loose **1**—0—1.
You crazy kioodle.
She is a little off.
It 's all bosh.
They are off their trolley.
You crazy thing.
You 're talking through your noggle.
(He) You're off.
Crack your gourd.
Go home and tell your mother.

BOYS.

Go soak your head 1—1.
Phs.
You 're on the back seat.
Go shake yourself.
You 're talking up your sleeve.
Go west.
Chase yourself around the block.
Take a run up the pike.
Go west and eat hay.
Climb up a tack.
Back to the mines.
Back to the tall timbers.
Back to the breadbox, you 're crumby.
You 're no good.
Take a dose of castor oil.
Go chase yourself.
Mix it.

SEX NOT SPECIFIED.

Go chase yourself.
Rooms to let.
Off the handle.
Go sell your papers.
You crazy.
Got the wrong pig by the tail.
To wake the wrong passenger.
Off his eggs.
Rotten.

SHOCK.

GIRLS.

Would n't that jar you **21**—9—3.
Would n't that bump you **2**—2.
Would n't that wrinkle your raglan **3**.
Would n't that freeze you **2**—0—1
Would n't that jiggle your slats **1**-1.
That was a stunner **1**-1.
Would n't it make you laugh.
Would n't that get you.
Shiver my timbers.
Would n't that juggle you.
Would n't that rattle the cherries on your mother's bonnet.
Would n't that smother you.
Would n't that fry eggs.

BOYS.

Would n't that split your slats 2.
Would n't that scorch you.
Would n't that jar your mother's preserves **1**—1.
Would n't that crack your slats.
Don't that jar your diaphragm.
Would n't that cook you.

SEX NOT SPECIFIED.

Would n't that fade the stripes on your grand dad's socks.
Would n't that start you.
Would n't that shake the cherries on your aunt Carrie's bonnet.
Would n't that tarnish that gold watch.
Would n't that make you yell.
Would n't that rattle your slats.
Would n't that make you stand without hitching.
Would n't that choke you.

EXAGGERATIONS.

GIRLS.

(She) You 're a peach **7—5—3.**
That's fierce **11—1—2.**
Wouldn't that kill you **7—2.**
You 're a dandy **3—4—4.**
(He) You're a bird **5—2—3.**
Bully **2—4.**
To beat the band **4—2—3.**
You bet your neck **4—1—1.**
(He) You 're a brick **2—3—1.**
You 're a lobster **3—2.**
Isn't she a beaute **2—3.**
I don't give a continental **5**
Swell **4.**
You bet your life **2—2.**
O what a whopper **1—2.**
I was scared stiff **3—0—1.**
I thought I'd die **3—0—1.**
He 's a corker **1—2.**
You're a dream **1—1.**
I'm dead broke **1—1.**
Swell elegant **2.**
Out of sight **2.**
That is hot stuff **2.**
He is a duck **1—0—1.**
Split my sides laughing **1—0—1.**
You 're a jewel **2.**
Perfectly slick **2.**
It was great **2—1.**
That is just swell **1—1—1.**
That's a corker.
He is a trump.
Perfectly lovely.
Simply scrumptious.
Grand.
More fun than a cat fight.
Howl (laugh).
It 's too funny for words.
You missed half your life.
She wants the earth.
Enough to give one ten fits.
It was a squelcher.
That 's a daisy.
You horrid thing.
Slow as an ice cart.
A green eyed lobster.
It is simply fierce.
Swell time.
You 're a diamond.
It 's too killing.
I 'll get killed.
I 'm spoiling for a fine dance.
To beat the cars.
To beat the engine.
That 's rank.
Is n't that gorgeous?
O, you grandmother.
Is n't that rank.
Higher than a kite.
Out of sight.
That 's a darling
Dark as Egypt.
He 's a holy terror.
Flunked dead.
Beat all holler.

BOYS.

Jim dandy **1—1.**
She 's a daisy.
A smile 2 by 6.
A perfect cough drop.
That 's a hot one.
A smile 4 by 10.
That 's a swell hat.
Great balls of sour dough.
That 's a scorcher.
Great balls of applebutter.
Mighty nice.
You bet your sweet life (or soul).
Slang to peddle.
Bet your bottom dollar.
Bet your socks.
Bet your boots.

SEX NOT SPECIFIED.

Had a swell time.
Aint worth a continental 2.
That is a dead cinch.
I 'll eat my hat.
I thought I 'd bust.
He 's a goose.
He is a dumbelick.
To make one shriek.

EXCLAMATIONS.

GIRLS.

Gee whizz **37—29—8.**
Gee **33—11.**
Heavens **15—1.**
Oh sugar **11—1—1.**
You bet your boots **4—9.**

You bet 7—5—2.
Oh pshaw 10.
For goodness sake 10.
Glory 8.
Goodness 8—0—1.
Mercy 8.
Gracious 8.
For the lands sakes 6.
Oh dear 5.
O, my goodness 4—1.
For heavens sake 4—1.
Fiddle sticks 5.
For pity's sake 5.
Oh, mother 4.
O joy 3—1.
O mercy 3—0—1.
Oh love 3.
Oh my 3—0—1.
Good gracious 2—1.
Goodness me 1—0—1.
Goodness gracious 1—0—1.
Mercy goodness 1—1.
Laws 2.
Gee Whitaker 1—1.
Sweet mother 1—0—1.
Gracious Peter 2.
Sakes alive 2.
My lands.
Mercy sakes.
That beats the Dutch.
Good land.
O lands.
Gracious sakes alive.
G gee guy.
O sands.
Great goodness.
O cricky.
Oh chestnuts.
Great grief.
Low zee.
Good lands or lands.
Goody goodness.
Goody gracious.
Merciful powers.
Gee wow.
Laws o'mercy.
Glory hallelujah.
Merciful fathers.
Good George.
Mercy me.
O George.
Cæsarina.
O fiddle.
O fid.
Zounds.
Geewizaker.
Mamma.
Good Grief.
Hallelujah.
For charity's sake.
Bless us.
Gracious me.
Mercy sakes alive.
Heavens and earth.
My sakes.
Gee Whilligers.
O fudge.

SEX NOT SPECIFIED.

Pshaw.
Pity sakes.

MILD OATHS.

GIRLS.

Darn it 32—10—3.
Gosh 25—8—3.
Great Scott 17—4—2.
Golly 14—5
The dickens 15—3—2.
Dog on it 7—6.
Great Cæsar 11—1.
Jimini 9—2.
Hully gee 4—6.
Jinks 8—1.
The deuce 5—3.
Hang it 5—3—1.
Holy smokes 4—4.
Jerusalem 4—4—1.
Thunder 5—2.
Confound it 4—3.
By gum 4—3—3.
Blame it 5—2—1.
By gosh 2—5.
Go to Halifax 2—5.
Great Cæsar's ghost 5—1.
Oh, shoot it 4—2.
By George 4—2.
By Jove 2—3—1.
Holy Moses 1—4—2.
Great guns 3—1—1.
By jingo 3.
Jimini crackers 2—1.
Jimini crickets 2—1.
Holy cats 3.
Ginger 2—1.
Oh, murder 3.
Where in the Sam Hill is it 2—1.
Plague take it 2—1.
By golly 1—0—1.
Darn 1—1.
Jimini jinkins 2.
I 'll be darned 1—1.
Shoot the luck 2.
Guy hang it 2.
Halifax 1—1.
Consarn it 2.

Murder 2.
Plague it 2.
By jimini 1—1.
Oh Peter.
Gosh Peter.
Dame it.
By Job.
Darn it all.
By jabbers.
By juniper.
Go to heaven.
Ding it.
Jimini crimps.
Zing.
By gosh, says Josh.
Thunder and Isaacs.
By gum.
Deucest.
O gore.
Drat it.
Consarn the business.
Darn fool.
I 'll be gol durned.
Plague on it.
Great king.

Boys.

Golly ned 3.
Dang it 2.
Go to hello 2.
Gosh hang it 2.
Gee for socks 2.
Go to the dickens.
The devil 2.
Thunder and lightning 2.
Darn the luck 2.
Holy terror.
Jimini gee wags.
You 're darn shoutin.
Golly nedders.
By Joe.
Blast it.
Dod burn it.
Darn your pictures.
Where in the dickens.
I 'll be blamed.
Gosh all hemlock.
By gosh.
By Jupiter.
I don 't give a darn.
Heavenly smoke.
O Lord.
The deal.
By darn.
Jingo.
Gol darn it.
By ginger.
imini Christmas.
Golly busters.
Gosh darn.
Gosh hang it.
O slash.
Gosh all Friday.
Moses.

Sex not Specified.

Holy gee 2.
Glory be to Peter.
Bless my heart and soul.
Oh Peter.
By jinks.
Great governor.

Unclassified.

Girls.

Rubber 50—12—8.
Flunked 10—1—4.
Sure 8—1.
Any old time 4—2—1.
That is all right 1—5—1.
Guy 4—1.
Well, I guess 5.
Forget it 4—1.
I 'll be jiggered 5—0—1.
Sure Mike 4.
Rubber neck 1—0—3.
Squelch 4—0—1.
I see my finish 4.
Any old thing 3—1—1.
She 's all right 1—2—1.
Fan me with a brick 2—1.
Bum 2—1.
O mose 3.
Chewing the rag 2—1—1.
Kid 2—1—1.
McGinty 1—1.
Make scatterment 1—1.
On the bum 1—0—1.
Never mind 2.
O, the kid 2.
On your life 1—1.
On his ear 1—1.
Bust 1—0—1.
Bamboozle 1—0—1.
Cinch 3—0—2.
Chestnuts 2—1.
Just for devilment.
Land o' Goshen 2.
Little snip 2.
Fudge 2.
Get a move on 1—0—1.
Go to grass 2—0—1.
Hevings Maud 2.
Honest John 2—.
Harry 1—0—1.
I 'll be hanged 2.

I like your style **1**—1.
I don't know **2**.
Guinea pig **1**—0—1.
Something doing **2**.
Get a wizzle on **1**—1.
See **1**—1.
That 's what **1**—1.
The main guy **1**—1.
Aint it so.
A piece of work.
A whole pill.
Blowing up.
Bill.
Boodle.
Biff.
Bite me.
Big coward.
Christmas mighty.
Cracky.
Chickenfeed.
Christopher.
Crush.
Come to life.
Crack your gourd.
Daft.
Dinky.
Ditto.
Don't you care.
Did you ever get left.
Drive the cow down (pass milk).
Don't you know.
Exams.
For Pete's sake.
Fresh Christmas.
For fair.
Forever and three days.
Fork up the cash.
Freeze out.
For the love of green roses.
Fish.
For the love of hot soup.
For the love of heaven.
Got 'em in stitches.
Good scissors.
Good Harry.
Go on.
Good and proper.
Good morning, glory.
Gingerbread.
Great Peter.
Gum eye.
Good Glory.
Glory ned.
Grease-pot (butter-dish).
Grandy's nightcap.
Gracious Peter.
He got smeared.
How about it.
Honor bright.
Hooks.
Hello, Pete.
How 's the weather up there.
Hello, Sally.
Helloa.
He has scads.
Honey.
Hail Columbia.
How can you tell.
How sad.
Heavens Katie.
I guess.
It 's up to me.
It comes in pat.
I 'm a goner.
I wonder why.
I 'll jump down your neck.
I felt like six nickles.
It 's on the blink.
It.
I 'll be blessed.
In the soup.
I bet a cooky.
In your mind.
In the swim.
I be jigged.
I don't think.
I squelched him.
Indeed.
Jolly (verb).
John Rogers.
Jim Crow.
Keep your change.
Little fool.
Lung.
Like the mischief.
Like a through vestibule train.
Lit on.
Lambaste.
Lay out.
Look it up in the dream book.
Lean on your own supper.
Land o' ganders.
Laurel hill.
Latest fad.
Mow.
Maggie.
My top knot.
Now will you be good.
Nobby.
Noggle.
Oh, you will get it.
O, you it.
O, bother.
Old shackens.
O, beans.
O, Louise.

Put my foot in it.
Pills (people).
Quit your kidding.
Rock.
Sorry I don't suit.
She's nutty.
Sore eye.
Sit on.
She has a snap.
She spouts an awful lot.
Sat upon.
Shucks.
Slick.
Splindingles.
She 's it.
She sprung a test on us.
Stars.
Shoot me guinea.
Stunt.
Sugar and molasses.
She thinks she *it*.
Swim through (lessons).
She 's flip.
Search me.
Scressie dig.
Smart Aleck.
That's slick.
Tarnal.
Thump.
Thing-a-bob.
The mischief.
That takes the cake.
That 's no dream.
Tin.
There are other ways to choke a dog without choking him on butter.
That 's all.
That 's the stuffy.
Thinks she is mike.
What 's doin.
Walk all over.
Well, I 'll be.
Well, I 'll be—go to Sunday school.
Why, the very idea.
What under the canopy.
Well, I swan.
Well, I 'll take my dinner.
Where did you get on at.
Waltz.
What 's the diffs.
What 's it to you.
You dirty thing.
You nasty boy.
You sassy thing.
You see me getting up.
You 're another.
You 're fine.
You 're a Rheuben.
You 're a kiddy.
You 're right.
You don't know, do you.
You old sucker.
You don't say so.
You 're not in it.

Boys.

Cheese it 2—2.
Let her go Gallagher 2.
Down in the mouth 2.
Ho Bill 2.
Rumbunctious 1—1.
Hot air 2.
No flies on me 2.
Sure thing 1—1.
That cuts no ice 2.
That 's the latest 2.
I don't care a fig 2.
Squeal on 2.
No flies on that (him) 1—1.
You 're a bughouse. 2.
Old man 2—1.
Again so soon.
A lovely grin.
Break your face.
Bang up.
Cuff you.
Catch on.
Chase a toy balloon.
Chubbing.
Crib and eat cobs.
Carp face.
Dopy.
Don't rush, the weather is cool.
Don't cry over spilt milk.
Give me a bid.
Good morning Carrie.
Granny.
Get a hustle on.
Google eyes.
Got no strings on me.
Go tell the ice man.
German carp.
Greenhorn.
Gump through this.
How would you like to be the iceman.
Hot cat.
He hooked.
He pinched.
Heraus mit ihm.
He looks like two cents half spent.
How 's that for high.
Hikey, Pikey, Dominikey.
How does that strike you.
Hot time.

Hot tomato.
Have you the chinks.
He 's no slouch.
I dont care a rap.
It 's all my fault.
Is n't that bummy.
In the hole.
I won't go to your house.
Keep your shirt on.
Keep your head on.
Keep your hair on.
Level head.
Let her rip.
Mushhead.
Now you 're talking.
Now you have your foot in it.
O you gezaho.
Paint her red.
Pony.
Right sudden.
Swipe.
Son.
Smoke up.
Schneides heraus.
Sloppy weather.
Scrumptious.
Suckers bite.
She.
Taffy.
Tantrum.
The one.
That 's no lie.
That 's twice.
The governor.
The gent.
We whitewashed you.
Well heeled.
Warm baby.
When the cows come home.
Who was your dog.
You chump.
You 're only fooling.
You 're a cutor.
You 're a tacky.
You 're a bum.
You 're gummy.
You 're daffy.
You 're the shucks.
You 're a loghouse.
Young heifer.

SEX NOT SPECIFIED.

Slug him 3.
Peachy 2.
Bloomin 2.
Hunk 2.
Hog or die.
To do one.
Won't take anything off him.
Knocked out.
A mistake in the print.
To knuckle under.
Dooley—go—go.
A chip of the old block.
To strike favorably.
To do or bust.
Dead one.
Ringer.
To spunk up.
Work a bluff.
Work a gag.
Pull one's leg.
Hang out a shingle.
To be full.
Shot in the neck.
Shot.
Peeps, lights, sights (eyes).
Star.
Rooter.
Bleacher.
Fair.
The mug.
Gib.
Slumps.
Pegs.
Flappers.
Hot warm.
Dago.
Pat.
To hit in the kisser.
Slap on the block.
Let her went.
Put her there.
To weep a few.
To meet one's Jesus.
Looney.
It's up to you.
Hoofed (walked).
Get there all the same.
She is fly.
Great.
The whole shooting match.
A little let off.
Goodbye Mamie.
Day of doom.
You bet I did?
Search me.
Ninny.
Peninsula.
It is all to the good.
Name it and you can have it.
Humbug.
I feel like hello my lady.
I feel like helping somebody.
Snitz, or Snitz and gnepp.
Bite their heads off.

Snow water.
Hustle up.
So long.
I 'm busted.
There he goes.
Speel off.
He has a case on Miss —.
Hot soup.
Let the old cat die.
I 'lowed to do something.
Aint you going.
Powerful work.
Nick of time.
Buy a pig in a poke.
Streak of good luck.
Almighty Dollar.
To hoodwink.
To pull wool over one's eyes.
A cop.
A cove.
Old woman.
A stiff.
Cork it up.
He 's soft.
He 's a little potato.
He 's a warm potato.
He 's a bean.
He 's a hot skeeter.
Now you 're shouting.
All right but won't do.
Scrappy.
Game.
Blowhard.
Goldbug out and out.
Rip snorter.
Willy boy.
Make tracks.
Skedaddle.
To pan out.
To tell on.
To paste.
To chug.
To biff.
To land.
Turn tail.
Show the white feather.
Arkansas toothpick (bowie knife).
Slob.
Hunk 2.
Goner.
To kid.
Kick up a row.
Kick the bucket.
Hand in your checks.
Pass in your chips.
Lummux.
Shindy row.
Mooney.
To fork over.
To eat hay.
To go up the spout.
Anxious seat.
Chip in.
To cotton to.
To pony.
To pole.
To cram.
To eat dirt.
To eat one's words.
To funk out.
To run up against it.
To bluff.
To keep a stiff upper lip.
To make one's self scarce.
Root.
Push.
Gang.
Set.

"Give cases of the long sentence habit where style has lost all symmetry and rambles on with incoherence and lack of form. What is the cause and cure of this? Can you classify its forms, beginning perhaps with the simplest, where the conjunction *and* connects a string of clauses," gave 209 returns. 6% of these were blank and 30.5% knew of no cases. Of the 133 positive replies 38 were observations and 95 reminiscences. 104 returns, or 50%, gave their age as follows: 2 at 5, 2 at 6, 8 at 7, 14 at 8, 9 at 9, 15 at 10, 7 at 11, 7 at 12, 10 at 13, 3 at 14, 2 at 15, 2 at 16, 2 at 17, 4 at 18, 3 at 19, 6 had the habit always, and 6 as a child. Of the 23 who gave a cause, 8 said their thoughts came too fast, 10 did not know sentence structure, 2 thought they seemed large, 2 said it was due to lack of vocabulary, and 1 tried to imitate authors. Of those who gave a remedy, 12 simply said they were corrected, 6 had to repeat

the sentence or rewrite the composition, 4 had their composition read before the class, 3 by having their composition ridiculed before the class, and 2 by being stopped in the middle of the sentence.

Concrete illustrations gathered incidentally might add much to the returns to this inquiry, especially those gathered from adolescents.

To the question, "Have you ever known a spontaneous story teller; if so, describe the case; when and how did it begin; what was the influence of, and effect upon, the hearers; and what kind of stories were preferred and what kind of characters; were they short, long, or continued?" there were 221 returns. 53% reported cases, 42% could not, and 5% left the question unanswered. 30% were personal experiences and reminiscences and 23% observations. 81 cases gave their age as follows: 3 at 5, 4 at 6, 6 at 7, 7 at 8, 7 at 9, 8 at 10, 4 at 11, 11 at 12, 10 at 13, 3 at 14, 2 at 15, 2 at 16, 1 at 17, 2 always, and 11 said as little children. 15.5% told short stories, 10% continued and 4% long stories.

11% told fairy stories, 4% ghost and witch stories, 4% stories about children, 3.5% about animals, 3% heroic stories, 1.5% funny stories, 2% stories of adventure, 1% wonderful stories, 1% impossible stories. Three cases reported stories with dreadful characters, one case noble characters, two, sentimental characters, one had as characters princes, kings and queens. 11 cases reported that they told their stories by night or in the dark, though this point was not asked for.

7-8 told stories to imaginary companions.

At 10 told short stories to playmates in a dark room. They asked me to, but afterwards were afraid to go home.

At 14 told stories of desperate characters, continued.

I 9, brother 11, told stories. Brother wrote plays and we dramatized them. He always had a villain in them.

Sister, 8, told witch stories. I liked them, filled me with awe.

The next question was "Have you known cases of a strong tendency to quote pretty phrases, perhaps especially in girls; the album kind of poetry, and give a few samples to indicate the kind of taste, the gratification of which is most commonly sought thus? Do conditional clauses abound in a characteristic and excessive way? Examples, cause, and how explained?" Only the first part of this question was answered. There were 211 returns, 4% of which were blank, 42% negative, and 54% positive. 35% gave one or more quotations. The age was given as follows: 2 at 9, 6 at 10, 7 at 11, 15 at 12, 5 at 13, 10 at 14, 10 at 15, 12 at 16, 2 at 17, 3 at 18, 2 at 19.

At twilight I often thought of a quotation from Longfellow:

"The day is done and the darkness
Falls from the wings of night,

As a feather is wafted downward
From an eagle in its flight."

"White, cold, heavy-plunging foam," haunted me for days after reading "A Dream of Fair Women." Also certain stanzas of "The Ancient Mariner" keep saying themselves over and over in my head.

The quotations are arranged into general classes according to thought as follows, figures indicating number of times given:

Wise Sayings.

"A stitch in time saves nine," **4**.
"Never miss the water till the well runs dry."
"Whistling girls and crowing hens always come to some bad end."
"The tongue is the root of all evil."
"All 's well that ends well" **2**.
"Remember your Creator in the days of your youth" **2**.
"Where ignorance is bliss it is folly to be wise" **2**.

"Though the mills of God grind slowly,
Yet they grind exceeding small."

"Live and learn, and learn to live."

"If you your lips would keep from slips,
Five things observe with care:
To whom you speak, of whom you speak,
And how, and when, and where."

"Birds of a feather flock together."
"Blessings brighten as they take their flight."
"A rolling stone gathers no moss."
"To speak is silver, silence is gold."

"Rain before seven, clear before eleven," (seemed wise to me).
"Evening red and morning gray, set the traveller on his way,
Evening gray and morning red, bring down rain upon his head."
(Seemed wise to me.)

Sadness, Despondence.

"Of all sad words of tongue or pen,
The saddest are these, 'It might have been.'" **5**
"Into each life some rain must fall."
"All is not gold that glitters" **3**.
"The melancholy days are come."
"The curfew tells the knell of parting day."
"Such is life!"
"It 's an ill wind that blows nobody good."
"The mill will never grind again with the water that is past."
"To be or not to be? that 's the question."
"The day is done and the darkness falls from the wings of night,
As a feather is wafted downward from an eagle in its flight."
"If we knew the woe and the heartache waiting for us down the road,
If our lips could taste the wormwood, if our back could feel the load,
Would we waste the day in wishing for a time that ne'er can be?"
"We cannot buy with gold the old associations."

"Life is a sheet of paper white
Whereon each one of us may write
A line or two, and then comes night."

"The snow had begun in the gloaming!"

Optimism.

"Every cloud has a silver lining."
"Truth, crushed to earth, shall rise again."
"Tell me not in mournful numbers," etc.

"Life is real, life is earnest,
And the grave is not its goal,
Dust thou art, to dust returneth,
Was not spoken of the soul."

"Tell me not in mournful numbers
Life is but an empty dream
And the soul is dead that slumbers
And things are not what they seem."

"It is never too late to mend" **2**.
"It 's a long lane that has no turn."
"A light heart lives long."
" Never trouble trouble till trouble troubles you" **2**.

"Though the way aint sunny, don't you fret,
Cheer up, honey, you'll get there yet."

Altruism.

"Do unto others as you would have them do unto you" **6**.
"If you gain new friends, don't forget the old ones."

"How far that little candle throws its beams.
So shines a good deed in a naughty world" **2**.

"Be good and you 'll always be happy" **5**.

"Politeness is to do and say
The kindest thing in the kindest way" **2**.

"I live for those who love me
Whose hearts are kind and true;
For the heaven that smiles above me
And awaits my spirit too;
For the human ties that bind me;
For the task by God assigned me;
For the bright hopes left behind me;
And the good that I can do."

"To err is human, to forgive divine" **2**.
"It is well to think well, it is divine to act well."
"Handsome is that handsome does" **3**.

"Remember well and bear in mind,
A constant friend is hard to find;
And when you find one that is true,
Change not the old one for the new" **3**.

"Be noble in every thought and in every deed."
"Be noble, and the nobleness that lies in other men, sleeping but never dead, will rise in majesty to meet thine own."
"Be ashamed to die till you have gained some victory for humanity."
"Better to weave in the web of life, a bright and golden filling
And to do God's will with a ready hand, and feet that are swift and willing,
Than to snap the tender beautiful threads of our curious life asunder
And then blame Heaven for tangled ends and sit and weep and wonder."
"'T is better to give than to receive."
"Honesty is the best policy."
"The quality of mercy is not strained. It droppeth like the gentle rain from heaven upon the place beneath" **2**.

"This world is filled with beauty, as other worlds above,
And if we did our duty, 'T would be a world of love."

"Love your enemies, even though they hate you."
"Love one another."
"Hope endureth all things."

"True happiness if understood,
Consists alone in doing good."

"However trifling what we do
If a good purpose be in view,
Although we should not have success,
Our purpose God will see and bless."

"The inner side of every cloud is bright and shining,
I therefore turn my clouds about
And always wear them wrong side out
To show the lining."

"Many a word at random spoken,
May soothe or wound a heart that's broken."

Self-Affirmation.

"Fame grows not upon mortal soil."
"The fountains of our life are all within us."
"Nothing ventured nothing had" **2**.
"Sink or swim, live or die."

"So nigh is grandeur to the earth, so near is God to man,
When duty whispers low thou must, the youth replies I can."

"If at first you don't succeed, try, try, again" **2**.

"Count that day lost whose low descending sun
Views from thy hand no worthy action done."

"Faint heart ne'er won fair lady."
"Borrowed words do not shine."
"Actions speak louder than words."
"God helps him that helps himself."
"Every day is a fresh beginning."

"Let us now be up and doing with a heart for any fate,
Still achieving, still pursuing, learn to labor and to wait."

"Try, try, again."
"So live that when thy summons come to join that innumerable caravan," etc.
"It is better to wear out than to rust out."
"A good name is rather to be chosen than great riches."
"No life can be pure in its purpose and strong in its strife and all life not be purer and stronger thereby."
"An ounce of pluck is worth more than a pound of luck."

Love.

"When she had passed it seemed like the ceasing of exquisite music."
"In the golden chain of friendship, regard me as a link."

"Silently one by one in the infinite meadows of heaven
Blossom the lovely stars, the forget-me-nots of the angels" **6**.

"The course of true love never did run smooth."
"To be near thee—to be near thee, alone is peace for me."
"Nothing to give but love."
"How can I bear to leave thee, how can I from thee part?"
"I cannot tell you why I love you, but I do."

"Should old acquaintance be forgot and never brought to mind?"
"It's better to have loved and lost, than never to have loved at all" 2.

"You may break, you may shatter the vase if you will,
But the scent of the roses will cling around it still."

"Dost thou love me sister Ruth?"

"Where'er I roam whatever realms I see,
My heart untravelled fondly turns to thee."

"Like the ripples follow the waves to sea,
So may God's blessing follow thee."

"Talk not of wasted affection, affection never was wasted."

"When the evening sun is setting
And from care your heart is free,
When of distant friends you're thinking
Will you sometimes think of me?"

"Roses are red, violets blue,
Sugar is sweet and so are you" 6.

"Though rocks and hills divide and you no more I see,
Remember it was——,who wrote these lines to thee" 3.

"If you love me as I love you
No knife can cut our love in two" 2.

"Tell me pretty maiden are there any more at home like you."
"Love may come and love may go and flit like a bird from tree to tree."

"May your path be strewn with roses
And all your children have pug noses."

"Happy, loving, kind and true
This is the wish I have for you."

"My pen is poor, my ink is pale,
My love for you shall never fail" 2.

"May in thy life forever be
A little corner left for me."

"In the chain of friendship,
Consider me a link."

"My love for you will never fail
As long as pussy has a tail."

"When you are old and cannot see
Put on your specs and think of me" 2.

"Remember the miss
Who scribbled this."

"In the storms of life when
You need an umbrella
May you have to uphold it
A handsome young fellow."

"The rose is red
The violet blue
The lilies look happy
And so do you"—also this ending:
. . . "Pickles are sour
And so are you."

MISCELLANEOUS.

"There is a method in my madness."
"The Lord is my shepherd," etc.

"Variety is the spice of life."
"All is fair in love and war" 2.
"The starry firmament doth shine."
"It is better to be born rich than good looking."
"Men may come and men may go, but I go on forever."
"The wee small hours."

"Patience is a virtue, possess it if you can,
Seldom found in woman, never found in man."

"In single blessedness she lived, and in the same she died."
"The vine that bears too many flowers will trail upon the ground."
"(Longfellow's Rainy Day, and well known proverbs.)"

"How beautiful is night!
In full orbed glory yonder moon
Rolls through the dark blue depths."

"As idle as a painted boat upon a painted ocean."
"Silvery stream of crystal water" (brook).
"I 'm your boss, yes—that 's nice."
"Divinely tall and most divinely fair."
"Certainly" (with peculiar intonation).
"'T was a great pity, so 't was."
"Light, more light."
"Seven Times One" (because it spoke so beautifully of the moon).

"You ask me to write in your album,
Pray tell me how to begin,
For there 's nothing original in me,
Excepting original sin."

"Here is for me a little spot
To upset the ink and make a [redacted]."
"Age before beauty, so goes the proverb,
So if you go last, do not be disturbed."

"Is there an adjectivism, nounism, adverbism, one or all of these, with examples and explanation?"

Of the 205 returns to this question 18% were blank, 40% negative, and 42% reported cases of extreme like for adjectives and adverbs. The age was given as follows: 1 was 9, 4 were 10, 1 was 11, 13 were 12, 8 were 13, 10 were 14, 9 were 15, 7 were 16, 7 were 17, 2 were 18, 2 were 19.

When 12 it seemed to me the more adjectives I used the more expressive my speech would be.
When 12 I placed all the adjectives before a noun I could.

The following are favorite words and expressions that were given, the figure following indicating number of times given.

A great, large, beautiful dog; perfectly delightful; glorious, good time; a beautiful, magnificent, ordacious piece of work; a great, big, deep, long hole; the dirtiest, meanest, outlandish thing; a beautiful, bright, sunshiny day; a glorious, clear, bright morning; a handsome, good-looking, attractive young man; the dearest, cutest, little thing (a hat); awfully pretty; terribly handsome; perfectly lovely 2; perfectly hideous; just beautiful; simply awful; extremely elegant; surpassingly beautiful; large, round, red and yellow apple; perfectly ele-

gant; charmingly beautiful; exquisitely beautiful; the dearest, prettiest, little thing; hideously ugly; perfectly charming; sweetly, divinely fair; simply great; magnificently delicious; simply grand; perfectly beautiful; a most splendid, elegant, delightful time; awfully nice; a perfectly splendid time; an immense, great, big house; a great, big, beautiful doll, given by my dear, sweet mother; the sweetest, prettiest, and loveliest hat; a lovely, beautiful bright day; a perfectly, swell, elegant hat; real sweet time; a perfect dear; a horrid shame; simply elegant.

atrocious
awful 3
awfully 4
beautiful 4
beautifully 2
convincing
cute 3
dandy
dear 3
delicious
delicately
disreputable
divine
divinely
dreadful
dreadfully
elegant 2
elegantly
excruciatingly
exquisite
exquisitely
fearfully 2
fierce
forlorn
forsaken
glorious 2
gracious
grand
handsome 2
horrid
horribly
incomprehensible
incongruous
lovely 2
magnificent 3
magnificently
marvellous
perfect 2
perfectly 5
pretty
ramskiverous
simply
splendidly
spontaneous
superb 2
sweet 2
swell
terrible 4
terrifically
terrific
thrilling
tremendous

To the question "Have you known cases of a reading passion or craze, where the soul seemed to take flight in books, and how was this reading done and from what motive? Was it for the pleasure of having the sentiments largely stirred, as in romance reading, or a real desire for information or to show a long list of books read, or what?" There were 227 returns, 90% of these were affirmative, 6% said no, and 4% left the question unanswered. The ages were given as shown in the curve on page 370. Not all of the returns gave a motive for their reading. 32% read to have the feelings stirred; 12% for pleasure; 7% to gain knowledge; 4% to be able to say they had read many books; 3% to rouse the imagination; 2.5% to be considered a person of information; 2.5% because they had a love for reading;—one case said to pass time and one to gain a vocabulary. 17% read romances; 7% stories of adventure; 4.5% everything; 2.5% Sunday school books and papers; 3% fairy tales; 1% history; and 1% nature.

11-12 read novels, the more exciting the better; read in bed, on the stairs, everywhere; neglected everything else.

12-14, read always, even while setting the table.

12-16, read mostly boy's books, though a girl.

At 12 became perfectly wild over Duchess and Laura Jean Libby's books.

11-14, read everything—detective stories, dime novels, Sunday school books, standard authors, religious papers, newspapers, magazines; and enjoyed all equally well. Sat up in bed till after midnight.

13-18, read everything. I laughed and cried with my characters.

11-12 read Sunday school books; thought some parts ought to be different.

At 13 I read 9 novels in one week.

14-15 read till crowing of cocks scared me to bed.

12-14 sometimes read 4 books a week.

At 14 read hour after hour curled up in a chair.

At 11 read everything, especially books for grown people.

At 17 had read only two books, and they had been assigned by the school.

Those who were forbidden to read, read by stealth. Many neglected their work and their studies to read. Some kept their novels under their desks open and read when the teacher thought they were studying; others took books along to their work and read when their parents thought they were working. Some sat up till after midnight, and some took their books along to bed, either to read while their parents thought they were in bed asleep, or to read early in the morning before their parents expected them to be up.

To the question, "Cases of aping the style of characteristic authors—Carlyle, Addison, newspaperism, sermonesque style, flowery, exuberant, or emotional style of novels. Have you known cases where style changed or came under other influences? What do you deem the value of this dominance for a time by the style of an author," the majority of returns were negative. Of the 208 returns 61% never aped the style of an author, 11% failed to answer, and 28% were positive but referred only to the first part of the inquiry. The authors mentioned were as follows, figures indicating number of times mentioned: L. M. Alcott 5, Macaulay 4, Irving 3, Longfellow 3, Geo. Eliot 3, Tennyson 2, Scott 2, Milton 2, Shakespeare 2, Stephenson 2, Whittier 2, Thoreau, Lowell, Crane, Stockton, Henty, Burroughs, Dickens, Virgil, Read, Bertha Clay, Mrs. Southworth, Bulwer, Phœbe Carey, Victor Hugo, James Lane Allen, Laura Richards, Dumas, Mark Twain, Emerson, Cooper, Samantha Allen, Harriet Holly, H. B. Stowe, Carlyle, newspapers.

Liked to be like Lady Macbeth and like Portia. Would imitate them before a mirror, using old muff box for crown.

Had a desire to know forms of polite letter writing.

Read "Little Women" and thought I wish I had written that before Miss Alcott.

At 10 read Victor Hugo's story of a man caught in quicksand. I read and re-read it, though it made me cry. I tried to imitate his style, short forcible sentences.

The low percentage of affirmative replies here is in harmony with the question on composition in so far as many do not like to write compositions.

"Cases of spontaneous poetry? Can you give examples? In what field lines, age, etc." To this inquiry there were 202 returns; 50% had not and 43% had written poetry. 7% failed to answer. 15% were observations and 28% personal experiences and reminiscences. The ages were given as follows: 1 at 9, 4 at 10, 1 at 11, 8 at 12, 9 at 13, 9 at 14, 15 at 15, 7 at 16, 2 at 17, 6 at 18, 1 at 20.

7% of the entire number sent a specimen of their poetry, and 16% specified the title more or less definitely without giving a specimen. The following are the titles given, figures indicating number of times given:

Love of classmate for boy in upper class 2; Jokes on girl friends 2; Classmates 2; Friend and the fun we had; Class of 1901; Teacher; Skating Party; Love (about people I knew); Sailor who had left his children; Trolley; Events of the week; Spring; Our Flag; Winter; Skating; May; Storm; Autumn Leaves; Lilies; March; Flowers; Birds; Subjects from Nature; Our work in life; Religious subjects; Angels. One said her subjects were sentimental, and two said theirs were humorous.

It will be seen that these titles fall mostly into two general classes, namely, Living Persons and Nature.

The following are specimens of poetry, the titles of which are not included in the above list, no attempt whatever has been made at correction.

I.

F. Alleluia! Sing the angels
As they gather far and near
See, the Christ child we bring to you
Will you not receive him here?

II.

Oh how base and still how wretched,
Are the mortals of this earth,
God doth pity, he doth bless you,
He doth give the Christ child birth.

III.

Like a Shepherd he shall lead you
Coming for his bleeding flock
Haste ye therefore to receive him
He will help you bear your lot.

F., 14. Written about a person I liked very much.

If ever you visit the High School
When you 've nothing else to do
Just step into Miss B —— room,
Where everything is new.
If you chance to look at the pupils
Just glance down one of the aisles,
And you 'll see the sweetest little girl
That ever smiled a smile.
In front of her sits a boy
Behind her is a girl,
And I can safely say between
These two is a pearl.

At 17 wrote poem of 26 stanzas. First stanza was as follows:

The class of Naughty Ones are we
But only so in name;
There's many a one among us
Who 'll soon be known to fame.

F., 16. One of the boys in the class wrote some poetry about me and so I wrote the following stanza about him:

Harry is naturally a good boy,
But when he's mad, he 's fierce,
And when he is reading his Cæsar,
You had better make yourself skerce.

F., 11.

O'er every other flower that grows
I dearly love the sweet brier rose
Its perfume is more rich, more rare,
Than I have met with anywhere.

IN MARCH.

The howling wind is sneezing a sneeze
The snow is piled up like Polar seas;
And the little birds in the bare trees say,
"Give us our overcoats, or we'll freeze.

F., 6.

When I was nine
I saw a stein
And it was fine.

F., 15.

Life has lost its gayest pleasures,
Day has dawned, and morning passed,
And dimly in the distance gloaming
Comes the evening, and uncared guest.

Who has asked this solemn stranger?
Or, does he herald the darkening night?
Has he come to forewarn danger?
Or has he come a *foe* in might?

Let us not fear so my darlings,
But be brave and firm and true,
Trusting God to help His children
As it is His wont to do.

And if he sees fit to answer
Prayers of ours in His own way
Let us bow and softly murmur,
"Thy will, not mine, O God, be done."

F., 9.

One night as we sailed on the dark blue ocean
A northwind rose,
And louder and louder blew the fierce north wind,
And whistled around our cabin door.

ROBINS.

16.

The robin is a native
Of our own chosen land
But the little English sparrow
Has taken him in hand.

The sparrow came from Europe
To help us (so folks said)
Get rid of all the insects,
And so the robin fled.

The robin thought the sparrow
Had crowded him quite out

It surely must have been so
Without a single doubt.

For where are all the robins
That used to be around?
They must have gone to Europe
For very few are found.

But early in the summer
And early in the spring,
At the very dawn of morning
We hear some robins sing.

So let us coax them back again
And tell them they may stay,
For in this land of liberty
More than one can have his way.

F., 14. Our teachers ever we 'll kindly regard
And forget the times we thought them "so hard."
Our schoolmates too we 'll never forget,
And for each, through life, we 'll have some love left.

F., 13. Girls in Grammar School wrote poetry. Themes—love of a classmate for a boy in upper class. One girl wrote:

Linger, longer, Lucy
Do not go away,
I cannot live without you
One little, little day.

Another wrote:

As Rue was walking down the street
A pretty maid he chanced to meet.

F., 15. Happy hearts are we
It matters not where we be
Whether to work or church we go
Over the hills or fields below
Our hearts were ever gay
And bright as the sunny days in May.

M., 15. "Susan and Howard to Elma did go,
To buy them some feathers and buy them a stove."

F., 12. Dear little Charlie, asleep in his cot,
Never knew that Santa Claus almost forgot
To fill up his stockings as full as he could
For dear little Charlie, so kind and so good.

F., 11. In a shanty in the far south,
In the bright and happy Southlands,
Lived a negro and his Dinah,
Lived his merry pickaninnies
With their hair so black and wooly.
Oldest of all these was Moses—
Moses so tall and silent
In the cotton, in the cabin
Always silent, never talking,
Only thinking, thinking, thinking,
Wishing that he might be given
Freedom such as had his master.
Never dreaming of the hero
Who would free him from the working,
Free him from the toil and working.

F. 11. "Listen, my schoolmates, and you shall hear
How Sandy Brownson got drunk on beer;—
He went to Lawson's, that's where they sell steers,
And bought one for a dollar to ride to Keer's.
When he got there he bought a pint of old beer,
Gave most to himself and the rest to his steer.
The steer was half wild and as full as his master,
He went to Killbones instead of Keyaster.
Sandy was hollering like the very old nick,
His head was whirling and he felt very sick.
And now, Oh! my schoolmates, beware of old beer,
And never, Oh never, give it to your steer!"

Age 7. "Our Cow."
"When I think how
We loved our cow," were two lines.

F., 9. "The Fire Engine."
"Down the street there comes the engine
Darng! Darng! Darng!
See the horses dashing swiftly,
Clack! Clack! Clack!"

F., 18. THE TRAVELLERS.

There was no room in the wayside inn
For the travellers weary and worn,
So they housed that night in the cattle shed
Where Christ the Lord was born.

II.

When low! appeared a vision,
Three travellers from afar
Came riding slowly into the night,
Led by the guiding star.

III.

And still they travelled onward,
And rode without fear or dread,
For the star that had led them all the way
Stood over the cattle shed.

IV.

Down from their camels white and strong,
Each stepped and prayed alone;
And still the star that led them on
In radiant beauty shone.

V.

"This is the place," the foremost said,
"We shall find the Saviour here."
Then they gathered their frankincense and myrrh,
And entered the stable drear.

VI.

They beheld a wondrous picture,
(Would that you and I might see!)
Of the mild and patient Mary
With the Christ child on her knee.

VII.

E'en the cattle found their voices,
Looked upon the holy sight,

While the stars sang out together,
Christ the Saviour 's born to-night.

Age 16. THE MINER.

When far down in the dark mine,
He heard the warning sound,
He knew it meant distruction,
If he did not reach the ground.

Like lightning he flew to the main shaft,
And into the basket was leaping,
When suddenly he spied his neighbor,
Who for his children was weeping.

Out he sprang, like a gallant knight,
For the basket would only hold one.
His thankful neighbor sprang in quite sprite,
And safely reached his home.

Sadly that night he told the story,
Of the lad who had saved his life,
He, indeed, has won his glory,
"God bless him," was the prayer of the wife.

F., 9. THE TROJAN WAR.

When the years had numbered four,
The Grecieans to the vally bore
There treasures and as there fathers oft had done
They played there games and races run.
We see Cleon, an Athenian boy,
Fresh from school and full of joy
But one of those Spartan's he was afraid
Wood beat him in the games they played.
In the war the Trojans fell,
For the great Achilles did so well.
He was a Greciean brav and strong
And he fought the Trojans right along.
The secret of his power they did affix
His mother diped him in the river styx
But his left heal under did not go,
So the Trojans arrow laid him low.

ALPHABET OF OUR LATE WAR.

Age not given.

A's for America's heroes who 'll gain
All treasured islands belonging to Spain.

B's for the battles although they were few
Informed the Spaniards we knew what to do.

C's for Cervera the Commander so fair
We caught in the harbor and bottled up there.

D's for Dewey who went to the fore
And planted Old Glory on Philipine shore.

E's for El Caney where brave Capron did fall,
Just as they gave them his last well spent ball.

F's for our flag which floats wide and free
Now on Old Morro close down by the sea.

G's for Garcia the Cuban so bold,
Of his campaigning there's more to be told.

H is Havana where our heroes lie,
Angels are keeping their vigils near by.

I is Iloilo surrendered last week
Knowing our power our friendship to seek.

J is for justice accorded to all
Ne'er is unheeded humanities call.

K is the kindness the Red Cross did show
To our brave boys who were lying so low.

L is for Lee who so bravely watched over
American rights on the island of Cuba.

M's for Manilla caught napping at last
When morning dawned she was tight in our grasp.

N is our navy which shattered the fleet
That Spain always boasted no country could beat.

O's for the Oregon staunch, brave and tight,
She came round the Horn just in time for the fight.

P's Porto Rico blockaded in June
'T was Spanish opinion we came there too soon.

Q is the question we asked then of Spain
Was it your dastards who blew up our Maine.

R's for Roosevelt of Rough Rider fame
Hurrah for our Teddy, world-wide is his name.

S stands for ships that our enemy lost
Too numerous to mention, not counting the cost.

T is the Texas, whose captain was crying
"Stop cheering boys, Great God they are dying."

U for the Union, long, long may she stand,
The brightest example in all this broad land.

V Volunteers who offered no quarter
To Spanish soldiers most bent upon slaughter,

W is Weyler the butcher, so base,
Even Satan would scorn to look at his face.

X is for Xyster the surgeons did ply,
On the soldiers the Spaniards lured to die.

Y's yellow fever that carried of scores
Of brave men who fought in Freedom's cause.

Z is the Zephyr that wafted us peace
The islands once ours we trust war will cease.

M., 13. A CHILD'S APPEAL TO A STAR.

Little star, shining so clear and so bright,
An Angel's lamp for the cold, black night,
How I think and would love to know,
What you are, what you do, why twinkle so?

Do you ever grow sleepy like I,
Up above in the big dark sky,
Does the sand-man ever nod your head,
And have you a mamma to tuck you in bed?

Little star, come sometime and talk to me,
And you and my dolls will have four o'clock tea,
And when you are tired and say good-bye
I'll ask papa to drive you to your home in the sky.

Good night little star, for I must go,
And you will stay and burn all night,
To light the path of the angels bright.

Oh, do not forget, when I come above,
To light my steps to the home of love.

(Boy was troubled about the 5 lines in last stanza.)

To the inquiry, "What is the best basis of English composition, (a) incidents or events of interest in the life or observation of the writer; (b) paraphrases of great epics, stories, speeches, essays, etc.; (c) papers based on special and diverse reading on a topic; or, (d) the results of long efforts to grapple with an author, Dante or Tennyson, far too large to be fully comprehended as a whole, etc.; and what is the advantage and disadvantage of each of these?" there were 205 returns. 7% failed to answer, and 93% gave replies as follows: 38% preferred incidents or events of interest in their own life or observation; 28% preferred to read up for information; 5% preferred paraphrasing; and 2% preferred to grapple with an author. Furthermore, 8.5% preferred to write on imaginary topics; 1.5% liked expositions best; 4.5% gave different preferences for different ages; and 3% simply stated that they never liked composition work of any kind. Some gave a second choice as follows; 9% reading up, 2.5% personal experiences and observations, and 3.5% imaginary subjects.

In many returns the statement was made that the writer did not like composition work. In such cases the preference for a subject was given on the supposition that she *had to* write. This statement was generally given incidentally, since this point was not asked for in the inquiry.

The inquiry, "Can you name (a) pieces, (b) stories, and (c) authors, which your experience convinces you are calculated to do special good for individuals at a certain age?" brought 201 returns. 11.5% did not answer, 20% could give no selections nor authors, 68.5% gave an affirmative reply, and 65.5% gave some author or selection. The books and authors I have grouped under the following headings: Childhood up to 9; Early Adolescence 9-14; Later Adolescence 15—; General, those where no age is given. Figures indicate number of times given.

Childhood.

Mother Goose Rhymes and Jingles.
Cinderella.
Puss in the Boots.
Alice in Wonderland.
Seven Little Sisters.
Dotty Dimple Books.
The Story of a Bad Boy.

Early Adolescence.

Alcott, Louisa M. 15.
Elsie Books 5.
Black Beauty 4.
Silas Marner.
Martha and Mary Washington.
The Lamplighter.

Pilgrim's Progress 4.
Roe, E. P. 3.
Pansy Books 3.
Henty Books 3.
Ingelow, Jean 3.
Alice in Wonderland 2.
Beautiful Joe 2.
Five Little Peppers 2.
Little Women 2.
Vanity Fair 2.
Uncle Tom's Cabin 2.
Carey, Rose 2.
Evangeline 2.
Bryant.
Dodge, Mary M.
Eliot, Geo.
Finley, Martha.
Hawthorne.
Irving.
Longfellow.
Read, Charles.
Tennyson.
Wiggins, Kate.
Wilkins, Miss.
Truman, Grace.
Greek Myths.
Bessie Lane's Mistake.
Crossing the Bar.
Sir Roger de Coverly Papers.
Hiawatha.
Seven.
Little Red Riding Hood.
Robinson Crusoe.
Tanglewood Tales.
Water Babies.
Little Men.
Arabian Nights.
Seven Little Sisters.
History stories.
Leonhard and Gertrude.
Ben Hur.
Fair Maid of Perth.
Battle Lost and Won.
The Bessie Books.
George's mother.
The English Orphans.
I, Thou, and the Other.
Bible Stories.
Thanatopsis.
Naomi.
The Orphan's Inheritance.
The Blackberry Girl.
Fabiola.
What Would Jesus Do.
Ivanhoe.
Legend of Sleepy Hollow.
Rip Van Winkle.
Thaddeus of Warsaw.

Later Adolescence.

Longfellow 2.
Shakespeare 2.
Dickens 2.
Churchill 2.
Meridith, Janice 2.
Evangeline 2.
Snow Bound 2.
Vision of Sir Launfal 2.
Silas Marner.
Addison.
Byron.
Emerson.
Irving.
Phelps, Mrs. E. S.
Reid, Esther.
Scott.
Sheldon, Charles.
Thackeray.
Tennyson.
Whittier.
Whitney, A. D. T.
Pansy Books.
Lady of the Lake.
The Brook (Tennyson).
Remember the Alamo.
Don and I.
The Right of Way.
Idylls of the King.
Rainy Day.
Wreck of the Hesperus.
Les Miserables.
Great Orations
Tale of Two Cities.
Leather Stocking Tales.
John Halifax.
Richard Carvel.
The Crisis.
When Knighthood was in Flower.
A Singular Life.
Barrabas.
Thelma.
Prince of the House of David.
Golden Milestone.
Hanging of the Crane.
Building of the Ship.
Paradise Lost.
The Ugly Duckling.
Sketch Book.
Ramona.
Reign of Law.
Sesame and Lilies.
In His Steps.

Age Not Given.

Alcott, Louisa M. 13.
Longfellow 10.
Tennyson 6.
Vision of Sir Launfal 5.
Dickens 5.
Irving 4.
Scott 3.
Ben Hur 3.
Stowe, H. B. 3.
Life of Washington 3.
Silas Marner 3.
Shakespeare 3.
Evangeline 2.
Milton 2.
Little Women.
Ruskin 2.
Emerson 2.
Thanatopsis 2.
Macaulay 2.
The Elsie Books 2.
David Copperfield 2.
Tale of Two Cities 2.
Hawthorne.
Eliot 2.
Ivanhoe 2.
Kenilworth 2.
Great Orations 2.
Burroughs.
Bryant.
Cooper.
Carey, Rosa.
Evans, Mrs.
Ingelow, Jean.
Macaulay.
Meade.
Proctor, Adelaide.
Roe, E. P.
Stephenson.
Spencer.
Sheldon, Charles.
Thoreau.
Verne, Jules.
Whittier.
Wordsworth.
Pillars of the House.
The Captain's Daughter.
Heir of Redcliffe.
Daisy Chain.
Lorna Doone.
In His Steps.
Ramona.
Titus, a Comrade of the Cross.
Face Illumined.
My Desire.
Oliver Optic's Books.
Conciliation (Burke).
Stories in Youth's Companion.
Quo Vadis.
Pearl's Sight.
Lucile.
One Day's Weaving.
King's Treasures.
John Halifax.
French Fairy Tales.
Roderigue Altohugui.
Last of the Mohicans.
Elsie Dinsmore Books.
Mill on the Floss.
Pepper Books.
Each and All.
Annabel Lee.
Wreck of the Hesperus.
The Wide, Wide, World.
Bell of Atri.
Hiawatha.
Lady of the Lake.
Pilgrim's Progress.
Christmas Carol.
Man Without a Country.
Algiers.
Sunday School Books.
Pansy Books.
Bible.
Last Days of Pompeii.
Scottish Chiefs.
Vanity Fair.
Burial of Moses.
Choir Invisible.
Romola.
Macbeth.

Conclusions.

It is quite evident that the number of returns to this inquiry is not large enough to warrant any authoritative conclusions, yet the results are of sufficient importance to permit us to point out some inferences which they suggest.

In the study on word-interests it is probably difficult to separate the two lists of words. Many, if not all of the words in the first list, are undoubtedly liked on account of some quality

of sound or form. The length of the word may also play an important part since many of the words are of more than average length, and a few returns specified that they liked long words. The rhythm of a word is undoubtedly also an important factor. "Beautiful" is given by 10, and "pretty" by 4 in List I, and by 6 and 5 respectively in List II. This would indicate that the idea connected with the word is an influencing factor. But what the essential characteristic is that makes one word appeal more to the child than another is difficult to determine. It may be a letter or combination of letters; it may be the rhythm or the tonal effect of the whole word; it may be the form of the word; or it may be the idea with which the word is connected. In inquiry No. 3, however, the emphasis being placed on the sound and the form, the idea with which the word is connected is less prominent, though it may be impossible to rule it out altogether. It is very decidely shown here that the ear plays a greater part than the eye. The per cent. of cases that like words on account of sound is more than twice the per cent. that like words on account of form; and the number of words given in the former case is more than three times the number given in the latter.

These results are of interest to the teacher of English. It is a recognized pedagogical principle that in teaching we should appeal to the different kinds of memory in order to attain the best results, the only question being which should have the greater prominence. From these results it would appear that oral work in English should have a very prominent place in our school curricula in order not to rob the child of the pleasure it finds in the music of the spoken language, and in order not to waste the impetus that this pleasure may give toward mastering the mother tongue. And since much writing for the child is unhygienic at best, it might well be reduced to a minimum, especially in the earlier school years when it is most hurtful.

Moreover, we need not force the mother tongue into a child. That is not the way the race has learned language. The reason that a child needs a slow grind and a dry cram to learn its own tongue is unnatural; it is, probably, because no advantage has been taken of the child's impulses and interests at the proper time. The word that the child learns spontaneously by the auditory method is still fresh in the mind when the formally assigned words have long been forgotten. The permanent interest of the child does not lie with words that it knows only as buried in books and in dictionaries. They are not the vehicles of its thought. It wants to have living words that come in at the ear and flow out at the tongue.

The efforts to increase the vocabulary by studying the dic-

tionary are manifestations of a desire for a greater variety of words and a larger means of expression. Of the 25 that studied the dictionary, 21 were less than 13 and 4 more than 13 years of age. In the returns to word interests no definite age was given but the replies referred mainly to childhood, though some retained their liking for certain pet words into later adolescence. It would seem, therefore, that the word interest of the child is before adolescence mainly. This, then, would be the time for the child to increase its vocabulary by hearing and using orally a variety of words. The adolescent is interested in larger wholes. If he has any liking it is not in isolated words but in pet sentences and paragraphs which contain a large idea. And these phrases are often repeated over and over again, again suggesting that those features of the mother tongue which can be developed only through oral expression appeal strongly to the youth.

The several curves rise rapidly in early adolescence and fall after fourteen. It has been well said that adolescence is the focal point of all psychology. It is the point where child psychology ends and adult psychology begins. It is a period of great psychic activity. It is the time of awakening of self consciousness. It is a period of emotional extremes; the youth oscillates between cheerfulness and despondency, laziness and ambitious zeal, sensitive primness and reckless carelessness. New ideas and new feelings press in upon the soul to such a degree that the youth is at a loss how to react to his impressions. He uses a superabundance of intensive quality words to express his feelings; it is not very, but perfectly, awfully, terribly, hideously; not beautiful, but surpassingly, charmingly, exquisitely beautiful; not pleasant, but perfectly delightful; not unpleasant, but perfectly hideous. He has a fondness for poetry to express his emotional life. He commits to memory pet phrases to which his feelings respond. He is stimulated by quotations of altruism and self-reliance, but finds solace in expressions of gloom and despondency when his feelings swing to the opposite extreme. Now he pleases himself with sententious expressions of wisdom, and now enjoys the most commonplace nonsense. Now he will use his slang profusely and with effect and again he will be dumb, yet in imagination lord it over the crowned heads of Europe. One day he will be reckless in speech and in attire, only to be committing poetry the next in order to be prim and elegant, and may even hesitate to sit down for fear of crumpling the dress.

The ordinary conventional modes of expression are not sufficient for the adolescent. He must either find a means of expression adapted to his needs or be silent. The genetic psychologist says if the youth is in need of a means of expression

which the rules of our English do not supply, let him supply that need if he can.

The teacher of English, on the other hand, objects to any expression that does violence to well established forms. But whether slang can thus summarily be condemned without a hearing may well be questioned. Walt Whitman[1] says, slang is "an attempt of common humanity to escape from bald literalism, and express itself illimitably, which in highest walks produces poets and poems." Again he says, "Daring as it is to say so, in the growth of language it is certain that the retrospect of slang from the start would be the recalling from their nebulous conditions of all that is poetical in the stores of human utterance." It may well be asked why the needs and tastes of people 100—yes 1,000 years ago should absolutely control our needs and tastes to-day, any more than that the laws and customs of that time should govern us now. Lowell[2] says: "There is death in the dictionary; and where language is too strictly limited by convention, the ground for expression to grow is limited also; and we get a potted literature, Chinese dwarfs instead of healthy trees."

During vigorous life of the animal organism old cells are breaking down and new cells are being formed constantly; if the latter process fails the body dies. So it is with our language; old expressions become obsolete and new expressions enter to serve new functions, and slang to a large degree supplies this want. It is the feeder of the vocabulary. It is the training ground for new expressions. It is idiom in the course of formation. Prof. Matthews quotes Lounsbury as follows: "Slang is an effort on the part of the users of language to say something more vividly, strongly, concisely, than the language existing permits it to be said. It is the source from which the decaying energies of speech are constantly refreshed." Here an authority on the history of English says exactly what so many of these returns say.

It is not the aim here to defend vicious expressions, neither would any of the authorities quoted do so. Such expressions cannot live. Their very weakness will cause them to be rejected long before they can do any serious harm to the language. And any expression that has the vitality to live, shows by its very survival that it fills a need. The people have the final decision in the matter as to what is good and what is bad and the youth can be taught to apply his discrimination as to good and bad to slang as well as to anything else, but to rob him entirely of his peculiar mode of expression just when he is

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[1] N. Am. Rev., Vol. CXLI, pp. 431.
[2] Introduction to Bigelow Papers, Second Series.

in greatest need of it, is wrong. Indeed, he will continue to use his slang in preference to conventional circumlocution, notwithstanding the objections of the teachers of formal grammar and rhetoric.

"Would n't that jar you;" "Down in front;" "Give us a rest;" "You are not the only pebble on the beach," and many others. What is there wrong with the English of these? If one should feel offended at them, the youth would call him a *lobster*. "Gee whizz" and "nit" may never become good English, but they are as laconic as "veni, vidi, vici." It is true, much of the slang in this list is unpolished, but it is out of such raw material that our English draws its beauty and its virility. Emerson says, slang is language in the making. He says it represents original force. And we might add that out of this original force develop some of our best and most expressive figures of speech.

We see, moreover, from the long list of expressions given, that the youth's slang, to a large degree, is self-corrective. "It is an effective school of moral sentiment." The list of words and expressions classed as mild oaths are better than swearing itself. They reduce the great mass of profanity. They are the safety valve for the escape of feeling, often, before the intensity requisite for an oath is reached. Again, a great many of the pet phrases simply show the youth's natural liking for superlatives, which is not bad in itself; but, above all, we should note the great number that so effectively rebuke excessive self-esteem and so keenly set off untruthfulness. Some of them are on a par with our most common proverbs. These expressions need not disturb us as to the effect on the character of the youth. They are sanifying; they are the youth's own invention to correct his own short-comings. We may safely let them encourage one another to "come down a peg," and to "take off their hats and show their corners," so it only be their own spontaneous activity. They will, of their own accord, finally "ring off," "come off their perch," "go back and sit down," realizing that they are not "the only pebble on the beach."

In order to attain a healthy and full-grown maturity, a child should live out completely each stage of its development. If the child seeks a larger means of expressing its increased emotional life, it should not be required to do so in too narrow conventional terms. The youth, as a rule, despises convention and etiquette. He expresses his feelings and ideas in a manner best adapted to his needs—and here he has such illustrious examples as Shakespeare and Goethe. The English language as it is may meet our adult needs, it may satisfy the

adolescent's adult needs later, but the shades of the prison house need not be forced upon the growing boy.

Interest in the story manifests itself very early in childhood. Beginning at 5 there is an almost constant increase till 12 and 13 in telling stories. There is a sudden drop at 14, which, compared with the reading craze curve, would indicate that the adolescent is more interested in receiving than in telling. The fact that children have strong auditory word interests, and that they like to tell stories, has great pedagogical significance. It suggests that the natural method for the child to learn language is by the short circuit from the ear to the tongue, as President Hall says; that the story is the great means not only to enrich the child's mind, but also to increase his vocabulary and to cultivate good expression. It is, undoubtedly, a far better method than the language book and language tablet method which has form but no interesting content. Samuel Thurber[1] well says he would have no language books in the school. He thinks all that is necessary is that the child have something to say and that the teacher help him say it. What more is there needed?

The kind of story children tell throws much light on the life of the child. We see that fairy stories lead by a considerable margin. The preferences for stories about children, about animals, about ghosts, and about heroism and adventure, are nearly equal. This is of pedagogic value for those who select stories for children. That among the subjects for spontaneous poetry *children* and *nature* are favorites is also suggestive, but the concrete examples are too few to draw inferences. Furthermore, eleven cases stated that they liked to tell stories in the dark or at night, though this point was not asked for. This may be a relic from the campfires of our ancestors. Every home should have an old-fashioned open fire-place, so that this story telling instinct can be lived out ideally and completely. The boy who, with his companions, has not sat around the glowing fire of the brush heap in the woods, in the warm evenings of spring, telling stories, has missed some of the most beautiful poetry of his young life.

The question often arises on what topics should high school children be asked to write compositions. Much of the composition work at the present time is based on books or chapters of books read, partly due, maybe, to the college entrance requirements in English. The returns indicate that pupils prefer to write about incidents and events of interest in their own life; this is all the more noteworthy when one considers that these replies were given contrary to the prevailing practice of

[1] Sch. Rev., March, 1903.

teaching composition. One of the returns hits the point in saying, "it makes one feel awkward to write about a thing about which one knows that the teacher already knows more than one does himself." In writing a composition the pupil wants to say something to somebody. If he writes about things that he has seen, or heard, or experienced, he gives information at first hand, and that is, undoubtedly, what makes that sort of composition work preferable to mere drill for the sake of good form. A considerable number preferred to read up on a subject before writing, but they all read for information. To write a critical essay does not appeal to the youth; neither is paraphrasing an interesting subject. 8% preferred to write imaginary stories; and composition work may well be made individual enough to allow this interest to develop properly.

Another point was suggested in this connection. As was stated before, many of the returns said, either directly or indirectly, that they did not like composition work. The large per cent of negative replies in question 12 is in harmony with this; one does not care to imitate an author if one hates composition work. The sudden falling off of the story-telling interest after 13 and the rise of the reading craze curve at 14 is also significant here. All these results suggest, as stated before, that the adolescent has his interests in impression and not in expression. An individual, in order to express himself well, must be familiar with his subject and have his knowledge well organized. The adolescent with a high school course that presents a mass of facts quite different from those he was accustomed to in the elementary grades; with a new realization of self; with a new awakening of his emotional life; with a larger world suddenly opening before him, is not anxious to express himself. He seems to need a few years of orientation before he is at home again in his new environment.

The list of books given as being calculated to do special good to individuals at a certain age is composed to a large extent of books not considered classic. This would indicate that the youth should have a liberal choice of books to select his reading from, and should not be limited to books which are found to be the best for adult minds. Many of these books, evidently, were never prescribed, and they were certainly not considered superior because they appealed to the critical faculty of man. They did good because they fed a soul that was hungering and thirsting for nourishment. The objection may be raised that some of these books ought not to make such a deep impression upon the youth, but who would not hesitate to be the judge? By disregarding the likes and dislikes, and the needs of adolescence in our teaching, we are inviting failure. A narrowly

prescribed course in English reading should be rejected until we understand the spiritual needs of adolescence. The course should be adapted to the youth and not to a logical, literary formula laid down by the critic. For this reason studies in this direction should have great pedagogical value.

In conclusion, I wish to express my great indebtedness to President Hall for generously placing at my disposal the valuable material he had collected, and for helpful suggestions in preparing this paper.

THE QUESTIONNAIRE METHOD IN GENETIC PSYCHOLOGY.

By Theodate L. Smith.

Many criticisms have been brought against the questionnaire method by its opponents and some extravagant claims have been made for it by too enthusiastic supporters, but the best test of a method is in its results, and, after nine years of trial of the method as used at Clark University, some definite facts may be stated both in regard to its value as an instrument of research, and its educational influence upon those answering the syllabi. Some of the criticisms which have been brought against it are that the material gathered by the questionnaire is unreliable, that it is full of inaccuracies, and reflects the suggestions contained in the syllabus rather than furnishing a true expression of the writer's own thought. In a measure this is true, and much material has to be rejected on this account, but neither of these difficulties has proved an insuperable obstacle. That suggestions are always necessarily a source of danger has been disproven by the facts, since it has repeatedly happened in cases where the questionnaire was properly presented that the suggestions contained in it were almost completely negatived, and answers quite different from those expected were given. The first criticism must be met, in part, by care in the construction of the syllabus, and the second, by intelligent co-operation on the part of those collecting and collating the data. Upon this, much depends. A syllabus submitted to either children or adolescents without direction, explanation of its purpose, or discussion of its topics, is not likely to result in the accumulation of valuable data. There may be a wealth of dormant associations, which, aroused by discussion, might prove fruitful of good results, but which is lost through lack of proper presentation of the subject. The first point to be impressed upon those answering the syllabi is the necessity for absolute truthfulness in thought and expression. Facts which can be definitely stated as facts, and the writer's own observations, should be sharply distinguished from vague reminiscences and hearsay evidence. These latter may, in some cases, have a value, but it depends upon their being recognized for what they really represent. The teacher, or whoever takes charge of collecting the data, should make sure

that the questions are thoroughly understood and the interest of the class aroused by discussion of them in all their aspects. The aim should be to encourage independent thinking and careful observation. Miss Williams, of the Trenton, New Jersey Normal School, who is an expert in collecting data,[1] and who has contributed valuable returns to the University from the beginning of the movement, lays great stress upon the value of the process of dictation in presenting the questionnaire, having found by practical experience that the impression thus made upon the minds of the pupils is much deeper than when the syllabus is simply copied or read by them.

Miss Williams states that she uses the Clark University syllabi in three ways: First, when they originally come to hand, by presenting them to the class as an exercise, and, whenever possible, in connection with the topic which they have been studying; for instance, syllabi relating to animals and plants are taken up in connection with the subject of natural interests as a basis for school work and, similarly, syllabi which demand introspection are taken up in connection with related topics. Secondly, old syllabi are used to stimulate thought in the class even when no direct use is made of the returns. Thirdly, Miss Williams finds the syllabi of great use in the preparation of special themes, frequently upon subjects which are not taken up in class but which "stimulate thought and open lines which, without them, would never have been thought of." She mentions that some which have proved very helpful in this way are Hydropsychoses, Luck and Chance, Pity, Unselfishness, The Teaching Instinct, Fears, Anger, Social Organization, Interest in Reading and Interest in Language. Another successful collector of data, Dr. Margaret K. Smith, of the New Paltz, New York Normal School, also ascribes a high educational value to the questionnaire method. In regard to the Clark University questionnaires she makes the following statement: "I have used many of the questionnaires which Dr. Hall has sent me from time to time as examination tests for my students in psychology and pedagogy. I have found them admirably adapted to this purpose. They brought out the original power of my pupils." Apart from the University syllabi, Dr. Smith uses questionnaires in two ways: First, as a means of outlining difficult chapters in psychology and pedagogy, the pupil taking the questionnaire home and reading the chapter in connection with it. A second set of questions, compiled from a different point of view is then used to stimulate discussion in class. A second method of

[1] For fuller account of Miss Williams's methods see *Ped. Sem.*, June, 1896, Vol. III, pp. 419-423.

using the questionnaire is to prepare a set of questions logically connected so that the answers will develop the whole subject, and this has proved an efficient aid in training the pupils in logical thinking.

If teachers of wide and successful experience can thus write of the practical benefits and value of the questionnaire, something may certainly be claimed for it as an educational factor apart from its value as a method of scientific research. As a means of training for those who are to be teachers, the questionnaire method in genetic psychology offers an effective instrument in developing interest and a right attitude toward their chosen work. Metaphysical speculations concerning the development of the human mind have little value for average normal school pupils. They need, most of all, a knowledge of such facts as can be gathered through careful observation of children, and the reminiscent introspection, which invariably has a tendency to put them in a sympathetic attitude toward children; and practical tests have proved that for accomplishing these ends the questionnaire is admirably adapted.

Another criticism frequently made is that, even when the questionnaire has been properly presented and the data are fairly reliable, cross sections, as it were, from many minds cannot give an account of continuous mental processes and show the phases by which one stage develops into another; that statistical methods are of little value in psychology, because generalizations from an average based upon a thousand children cannot be applied to any particular child, since the individual range of development is too great, and a child of five and one of eight, may be at the same stage of development in some particular line. It is true that the questionnaire method does not possess the advantage of the individual biographies in tracing continuous mental processes, and must be supplemented by them, and that it is not possible to state from its generalizations that any individual child will, at a definite age, have reached a certain stage of development. But neither is that possible by any other method, and the questionnaire method has certainly never made any such claim. Because it does not possess all the advantages of other methods is no argument that it has not advantages peculiarly its own. It is a method to be carefully used, and its results interpreted by those whose scientific training has been wide enough to judge the material and make use of whatever in it has true psychological significance and connection. Sometimes this does not lie in the direct answers to the questions but in unconscious revelations made by the writers in discussing the topics of the syllabus. In many, perhaps most subjects, the chief value is qualitative, and not statistical. The particular ages at which several hundred

children may be interested in plants, animals, or mechanical problems, may have a practical pedagogical application, but of vastly greater importance is the child's mental attitude towards these things, and the stages by which his interest develops, which are quite independent of the actual age. And this the questionnaire method properly used, *i. e.*, restricted to its proper field and its data properly collected and collated, can and does give. It cannot solve detailed and individual problems; it makes no claim to be considered the sole method of genetic psychology and must be supplemented by laboratory and biographical studies and must call to its aid introspection and comparative psychology; but it does give a vast body of observations obtainable in no other way, much valuable qualitative material and some statistical results, especially in pedagogical problems, that have already demonstrated their value. By the host of problems which it suggests it has infused new life and given stimulus to the older methods. Before the advent of the questionnaire method, genetic psychology was restricted to a narrow field, and it is not, perhaps, claiming too much, to say that up to the present time it has made more valuable contributions to this than any other method.

It is a method which can be used in the comparatively new fields of ethnic and social psychology, more effectively, perhaps, than any other. It has already proved itself of the greatest service in the study of adolescence and of criminology, in many pedagogical problems, especially those in the department of hygiene, and in the psychology of religion.

It has been misused by those, who, with no scientific training have essayed to use it in complete ignorance of the rigorous and painstaking processes to which the data must be subjected, and it has required experiment to find its best applications and true value, but, though like other methods, it did not spring into existence as a well developed and perfected instrument of research, and has had to grope its way and learn by its errors, it has survived the torrent of criticism poured upon it and is steadily vindicating itself as a scientific method within its own sphere. Child study, the field in which it has proved most effective, has made psychology a living thing, brought it in vital relation with the practical problems of life, has taken it from the region of abstract thinking, and brought it into touch with moral, religious, and social problems. On the educational side it has proved its value as a mental stimulus to the student. The syllabi which call for direct observation of children awaken an interest and understanding which is a fundamental necessity for good teaching. They open up new lines of thought and bring out the originality of the pupil if he has any.

As an exercise in English the syllabi can be used with good

advantage, for the necessity of clear thinking and accurate expression of thought upon which the value of the answers depends furnishes an excellent means of training in English composition. Too often the ordinary theme is an elaborate effort to express trivial or second-hand ideas in which the writer has no interest, while the questionnaire demands, first of all, vigorous thinking and then its clear expression.

Frequently it clears up mental haziness on the part of students and gives a well defined conception of the subject in place of vague, general ideas. It gives to the student training in introspection, enables him to better understand his own mental processes, and, above all, makes him think for himself. No college or university student, who has ever conscientiously tried to answer a syllabus which demands introspection, will question its value as a means of psychological training, so that the questionnaire method may lay claim to recognition, not only as a method of scientific research, but as an effective aid in teaching psychology.

BOOK NOTES.

Laura Bridgman. Dr. Howe's Famous Pupil and What He Taught Her, by MAUDE HOWE and FLORENCE HALL. Little, Brown and Co., Boston, 1903. pp. 394.

In this volume is now presented to the general public for the first time a full and connected account of Dr. Howe's great achievement in the education of Laura Bridgman. The steps of the process by which the mind of a child, deaf, blind, and defective in the senses of both taste and smell was reached and brought into communication with her fellow beings are faithfully portrayed and the book will be appreciated not only by all who are interested in the problem of the education of the deaf and blind, but by the general reader. It is a memorial to Dr. Howe as well as a life of Laura Bridgman in so far as this relates to his public work which, though most widely known in connection with Laura Bridgman since in her case he demonstrated for the first time the possibility of educating those who had suffered the double deprivation of sight and hearing, embraced many other philanthropic movements. In Dr. Howe the afflicted and oppressed found always a ready champion, and the story of his life is one of devotion to humanitarian and philanthropic activity. To his efforts were due the establishment of the first American School for the blind, many appliances and improvements for teaching them, the introduction into the United States of printing in raised type for the blind, and it was through his exertions that the first experiments in the instruction of idiotic and feeble minded children were made in this country. The material for the book has been drawn from Dr. Howe's "Reports of the Perkins Institution for the Blind," the journals kept by her teachers, her own diaries and the personal reminiscences of the authors. An appendix contains an introductory note by President G. Stanley Hall and extracts from an interesting article by Professor E. C. Sanford, giving the psychological analysis of Laura's mental condition in so far as this could be made out from her literary compositions. There is a brief mention of Helen Keller, whose name is inseparably linked with that of Laura Bridgman. It adds to the interest of both books that the publication of "Laura Bridgman" should so closely follow that of Helen Keller's "Story of My Life," for though other deaf and blind children have been educated since Dr. Howe by his devoted pioneer work proved the possibility, these two stand together, the one a demonstration of Dr. Howe's hope that the human mind might be reached through one sense alone, the other a fulfillment far beyond Dr. Howe's highest expectations, even after the success of his experiment was demonstrated. Though, owing to Laura Bridgman's delicate health and other limitations Dr. Howe did not realize all that he hoped for in her case, it has been more than fulfilled in Helen Keller whose achievements, impossible without the foundation laid by Dr. Howe, have far exceeded his most enthusiastic dream of possibilities. Yet those who know Miss Keller and her teacher, Miss Sullivan, will hardly assent to the statement that "Helen Keller's early education was conducted on the same lines as Laura's. The means of communication were discovered by Dr. Howe and Miss Sullivan has builded upon his foundation, but her method of teaching language to her pupil is her own and differs fundamentally in principle from that used by Dr. Howe. Laura Bridgman was painstakingly taught

the meaning of each word as it was given to her, and Dr. Howe believed in the necessity of this. To the end of her life her English was a quaint, syncopated language, containing errors of both vocabulary and syntax. The essence of Miss Sullivan's method is best given in her own words, contained in personal letters written during the progress of her work. "I spell into her hand all day long although she has no idea as yet what the spelling means. I have decided not to have any regular lessons with Helen for the present. I am going to treat Helen exactly like a two year old child. It occurred to me the other day that it is absurd to require a child to come to a certain place at a certain time and recite lessons when he has not yet acquired a working vocabulary. I shall talk into her hand as we talk into the baby's ears. *I shall use complete sentences in talking to her* and fill out the meaning with gestures and descriptive signs when necessity requires it." At a later date, when the success of her method had been fully demonstrated, she writes: "It is not necessary that a child should understand every word of a book before he can read with pleasure. Helen drank in language which she at first could not understand, and it remained in her mind until needed, when it fitted itself naturally and easily into her conversation and compositions." Miss Keller's English, as a result of this method, differs from that of other educated people only in its unusual purity and correctness. That Miss Sullivan has had an unusually gifted pupil and many advantages which it was impossible to procure for Laura Bridgman is undoubtedly true but something must be granted to the method and genius of a teacher, which has enabled, for the first time in the history of the world, a child deprived of sight and hearing since she was eighteen months old, to take her place among other college girls, and at the age of twenty-three become a senior in the regular course at Radcliffe College. It is rare that in one season two books so full of human and psychological interest have been published, as "Laura Bridgman" and Helen Keller's "Story of My Life." The student will, of course, still refer to Dr. Howe's original reports, but even by those who are familiar with these, the present volume, which gives the story of Dr. Howe's achievement with Laura Bridgman in its relation to his other labors for humanity, will be read with more than ordinary interest. THEODATE L. SMITH.

Beobachtungen über das Anschauungsvermögen der Kinder., von L. MAURER. (Zeits. f. Päd. Psychologie, Pathologie und Hygiene.)

In this interesting article the author showed eight pictures to a child of three and one-half years in July and again in October and December, and its utterances concerning these pictures were immediately written down. In July, these expressions contained thirty-two nouns; in October, fifty-eight; in December, seventy-five. These were subdivided into persons, parts of the body, dress, building, food, implements, animals and objects in nature. The utterances were also studied as expressions or rudimentary sentences, which also grew in number with age. Adjectives, number words, incomplete and finished sentences, nouns in the objective case, two successive and connected sentences, negative words, gestures which diminished with age, errors, pronouns, infinitives, and those indicating moral feeling are also made the themes of special paragraphs. The results of an analogous method are promised on children of school age from five to thirteen.

The Mental Traits of Sex, by HELEN BRADFORD THOMPSON. University of Chicago Press, Chicago, 1903. pp. 188.

This study is largely based on the author's own experimental determinations and treats in different chapters of the comparison of sexes

in motor ability, skin and muscle senses, taste and smell, hearing, vision, intellectual faculties, and affective processes.

The Paidologist. July, 1903. Cheltenham, England.

This is distinctly the best number published by the British Child Study Association. The leading paper is a lecture by Dr. Clouston on child study. This is followed by a valuable article on the preparation for it by Dr. C. W. Kimmins. Miss Louch has a very interesting practical paper on adolescence, and others are upon the mentally defective child, the origin of canon in music, the appreciation of number, real education, and ambidexterity. The book notices are less than usual. It is quite plain from the many branches of this association that, as Dr. Kimmins says, "we are quite justified in assuming that what is known as child study has taken firm root in England, and that for good or ill it has come to stay,"

Fundamentals of Child Study. A discussion of instincts and other factors in human development with practical applications, by EDWIN A. KIRKPATRICK. The Macmillan Co., New York, 1903. pp. 384. $1.25.

The author treats of the nature and scope of child study, then of physical and motor growth, of instincts of various kinds, of the development of intellect, heredity, individuality, abnormalities, etc. It is a helpful book, but it is greatly to be regretted that in so many cases the writer has not availed himself of material at hand and has generalized and philosophized rather than taken pains to present established facts and let them speak for themselves. Even the literature he cites, is in many cases entirely unused in the text. Indeed it never was more apparent that the child study movement has outgrown treatment as a whole by any one, and in its most vital departments has also outgrown treatment by any but experts.

Memoirs of a Child, by ANNIE STEGER WINSTON. Longmans, Green & Co., New York, 1903. pp. 169.

The unique feature of this book is the admirable sympathy and insight of the author, who has evidently succeeded in conserving in her own nature to a remarkable degree the freshness and intuitive naïveté of childhood. It seems to be based partly upon her own recollections and partly upon careful and sympathetic observation, the former element predominating. While few important new truths are brought out in any great prominence, the book has a very rare quality of suggestiveness and can be heartily commended to teachers and perhaps especially to mothers.

The Individual Child and His Education. Practical studies in education made in the Passaic public schools. Issued quarterly by F. A. Owen Publishing Co., Dansville, N. Y., 1903. pp. 59.

This new serial comprises practical studies in education made in the Passaic public schools. Practical methods and fruitful lines of observation are described and this first number might be called an incentive and general guide for observation of individual children.

Representative English Comedies, edited by Charles Mills Gayley. The Macmillan Co., New York, 1903. pp. 686. Price, $1.50.

The topics especially treated, each by a different author, are: John Hayward, Nicholas Udall, William Stevenson, John Lyly, George Peele, Greene's place in comedy, Robert Greene, Henry Porter, Shakespeare as a comic dramatist, an historical review of the beginnings of English comedy. Very copious extracts and illustrations constitute a good part of the book.

The Story of the Greatest Nations from the Dawn of History to the Twentieth Century, by EDWARD S. ELLIS and CHARLES F. HORNE. Parts 57 to 73 inclusive. Price, 25 cents each. F. R. Niglutsch, New York.

These seventeen parts complete what has certainly been a very expensive universal history. It is based upon the idea that, especially for the young, history is most effectively taught by copious illustrations, including those by standard artists and those which illustrate the most important scenes and events and bring individualities clearly before the reader. Perhaps about one-half of this entire work consists of full page illustrations on heavy calendered paper. This of itself makes the work entirely unique, and when we consider that each of the seventy-three parts costs but twenty-five cents, it is really a model of cheapness. We have no hesitation in giving it our own most hearty commendation for both grammar and high school grades, and in expressing the opinion that a copy of it should be in every schoolroom.

Les Combattants Français de la Guerre Américaine 1778-1783. Paris, 1903. pp. 327.

This magnificent work consists of lists derived from authentic documents deposited in the national archives of the Minister of War in France, and is published under the direction of the Minister of Foreign Affairs. It has a number of full page illustrations and is certainly a monument of library skill, which will no doubt be of high value to the historian.

The Possibility of a Science of Education, by SAMUEL B. SINCLAIR. University of Chicago Press, Chicago, 1903. pp. 126.

After considering the empirical objection, the writer proceeds to the dynamic conception of science and of education, then discusses educational aims and means, the psychological factor of educational science, and the technique of educational science. We must say this work seems somewhat abstract and unpractical, although the author shows familiarity with much of the best recent literature.

Music Education. An Outline, by CALVIN BRAINERD CADY. (Second Book.) Clayton F. Summy Co., Chicago, 1903. pp. 145.

The material of all this book is the child's own work, most of which was developed in the schoolroom. First come original poems by children of from six years on, then original melodies from children of three and a half on. The author gives poetic motives. Then come melodic and song conceptions to develop both voice and hand. Songs without words follow, then melodies which are first learned, then written. Technical studies follow, and finally comes a bibliography. It is impossible in the space at our command to give any adequate conception of this fascinating and novel book.

The Corona Song Book. A choice collection of choruses designed for the use of high schools, grammar schools, academies and seminaries, by WILLIAM C. HOFF. Ginn & Co., Boston, 1903. pp. 362. $1.00.

The author's good sense and taste, as well as his true musical quality, are well known and are a sufficient guarantee for the efficiency of this book.

School Music Monthly. The Supervisors' Magazine. Keokuk, Iowa.

The files of this journal, which is addressed largely to supervisors, present an excellent picture of the condition and recent progress of musical education in the public schools of this country.

The Geology of Worcester, by JOSEPH H. PERRY and BENJAMIN K. EMERSON. Worcester Natural History Society, Worcester, Mass., 1903. pp. 166.

This book supplies a long felt local need. It first treats Worcester phyllite and micaschist; the second chapter is devoted to quartizite; three, Millstone Hill; four, molten gneiss; five, Shrewsbury Dike; six, Ballard Field; seven, Paxton and Brimfield schists; with finally the general geology of Worcester.

Geographic Influences in American History, by ALBERT PERRY BRIGHAM. Ginn & Co., Boston, 1903. pp. 366. $1.25.

This suggestive, interesting, and essentially new book with its seventy-two cuts treats of the Eastern Gateway of the United States, shore line and hill top in New England, the Appalachian barrier, Great Lakes and commerce, prairie country, cotton, rice and cane, Civil War, where little rain falls, mountain, mine and forest, from the Golden Gate to Puget Sound, geography and American destiny. History and geography belong together and this with its cuts and fifteen maps attempts to wed them.

Agriculture for Beginners, by CHARLES W. BURKETT, FRANK L. STEVENS and DANIEL H. HILL. Ginn and Co., Boston, 1903. pp. 267.

This little book has a chapter each upon the soil, its relations to plants, how to raise a fruit tree, the diseases of plants, orchard, garden and field insects, farm crops, domestic animals and farm dairying. There are many illustrations, and the book itself is admirable and right in the line of the best and newest educational tendencies.

The Jones First, Second, Third, Fourth and Fifth Reader, by L. H. JONES. Ginn and Co., Boston, 1903.

We here have a full set of readers from the first up to the eighth year in school. It is not intended to furnish all the reading matter needed in these grades. The first reader gives a prominent place to nature study and is adapted to each or all of the modern methods of teaching beginners. The material of the second reader is mainly drawn from fields of thought and action of interest to children of that age. The selections in the third reader have much reference to effective reading and delivery. The fourth reader begins to make the transition to literature and has special reference to bridging for the child the chasm of those forms of thought familiar to the child and those appropriate to youth. Many selections from larger works are made with the design of turning pupils' interest to these, and moral bearings of the content are given special prominence. In the fifth reader noble, daring, heroic action based upon high motives and ambitions is prominent. Many selections are taken from very recent authors. The type and form of page in all are admirable.

Interpretative Forms of Literature, by EMILY M. BISHOP. New York, 1903. pp. 203.

This treats of common errors in reading, the right approach to literature, classification, interpretative forms and their treatment, gestures, and reading in our public schools,—all with many interesting illustrations.

Provincial Types in American Fiction, by HORACE SPENCER FISKE. The Chautauqua Press, New York, 1903. pp. 264.

Provincial types in New England, in the South, in the Mississippi Valley and in the far West are the groups about which interesting digests of recent popular literature are made to fall.

Vocal and Literary Interpretation of the Bible, by S. S. CURRY. The Macmillan Co., New York, 1903. pp. 384.

In the first part the problem is stated; the second is the message or spirit; third, the technique; fourth, preparation and the service. This is an attempt, as Professor F. G. Peabody says in his introduction, to teach those entering the Christian ministry how to read the Bible.

Stories from the Hebrew, by JOSEPHINE W. HEERMANS. Silver, Burdett and Co., New York, 1903. pp. 178.

This book is designed for supplementary reading. It is based on experience and no attempt is made to explain the meanings. The biblical phraseology is observed as far as possible. There are fourteen full page illustrations and thirty stories, with a number of poetic versions interspersed.

Manual for Teachers on Old Testament Lessons, by FREDERICA BEARD. The Winona Publishing Co., Chicago, 1903. pp. 139.
Teachers' Notes on Wonder Stories from the Gospels, by FREDERICA BEARD. The Winona Publishing Co., Chicago, 1903. pp. 68.
Wonder Stories from the Gospels, arranged by FREDERICA BEARD. The Winona Publishing Co., Chicago, 1903. pp. 80.

These three booklets represent an attempt to reduce the Bible to the simple language and intelligence of young children. They contain interesting, new and suggestive features.

Moral Drill for the School Room, being a short treatise on Elementary Ethics, taking the Ten Commandments as the Fundamental Principles, by J. M. HARPER. E. L. Kellogg & Co., New York, 1903. pp. 120.

This is a unique and interesting work by an able and enthusiastic leader in education in Canada. Virtues and vices are schematized in a chart and reduced to a drill. All is based upon the Ten Commandments which are given a broad interpretation, and everything is made as objective as possible.

Elementary Rational Speller. A Speller for Primary and Lower Grammar Grades, by G. E. JOHNSON. Benj. H. Sanborn and Co., Boston, 1904. pp. 69.

One interesting feature of this book is that its word list was made after careful record of their most frequent occurrence in representative school books, vocabularies of twenty-two children from two to five, and school papers of children in primary and grammar grades.

John Adams and Daniel Webster as Schoolmasters, by ELIZABETH PORTER GOULD. Introduction by the Hon. Charles Francis Adams. The Palmer Company, Boston, 1903. pp. 94. $1.00.

This attractive booklet describes with a number of illustrations the brief experiences of Webster and Adams in the schoolroom. The general result of these records suggests the great practical educational value of school teaching for those entering public life.

A New School Management, by LEVI SEELEY. Hinds & Noble, New York, 1903. pp. 329. $1.25.

This book carefully avoids giving the reader any clue to whether it is a new or an old book. It treats of the teacher's personality, preparation, first day in school, government, punishment, morals, incentives, promotion, recitation, school exterior, interior, and many other topics.

A German International committee of forty Europeans have issued an interesting appeal for the establishment of international congresses

for school health. About one hundred Americans have been especially invited. Those interested can obtain information by addressing Professor Griesbach, Mülhausen (Elsass-Lothringen), Germany.

The city of New York has issued courses of study and syllabi for the elementary schools in nature study and elementary science and geography, geometry, drawing, constructive work, sewing and cooking, ethics, English, history and civics, kindergarten, music, physical training.

The Origin of American State Universities, by ELMER E. BROWN, University of California Publications. Education, April 10, 1903. Vol. 3, pp. 1-45. University Press, Berkeley. Price, 50 cents.

An English Grammar, by S. CLAUDE TICKELL. O. Newmann and Co., London, 1903. pp. 59.

Why do we Teach Gymnastics? By JACOB BOLIN. Gymnastic Papers, Series A, No. 2. New York, pp. 57. Price, 25 cents.

Drawing in High Schools, by HENRY T. BAILEY. Reprinted from the Sixty-sixth Report of the State Board of Education. Boston, 1903. pp. 16.

Paedagogicky Vyznam Kreseb Detskych, napsal Frantisek Cáda. V. Praze, 1903. pp. 45.

Laboratory Physics. A student's manual for colleges and scientific schools, by Dayton Clarence Miller. Ginn & Co., Boston, 1903. pp. 404. $2.00.

Lessons in Physics, by LOTHROP D. HIGGINS. Ginn & Co., Boston, 1903. pp. 379. 90 cts.

Mechanics, Molecular Physics and Heat. A twelve weeks' college course, by ROBERT ANDREWS MILLIKEN. Ginn & Co., Boston, 1903. pp. 242.

Lessons in Astronomy including Uranography. A brief introductory course without Mathematics, by CHARLES A. YOUNG. Ginn & Co., Boston, 1903. pp. 420. $1.25.

The Odes and Epodes of Horace, by CLEMENT LAWRENCE SMITH. Ginn & Co., Boston, 1903. pp. 443.

Allen and Greenough's New Latin Grammar for Colleges and Schools, edited by J. B. Greenough, A. A. Howard, G. L. Kittredge, Benj. L. D'Ooge. Ginn & Co., Boston, 1903. pp. 490.

Marcus Tullius Cicero. Ten Orations with the Letters to his Wife. (Macmillan's Latin Series.) Edited by Richard Alexander von Minckwitz. The Macmillan Co., London, 1903. pp. 518. $1.50.

M. Tulli Ciceronis Tusculanarum Disputationium, by FRANK ERNEST ROCKWOOD. Ginn & Co., Boston, 1903.

A Latin Grammar, by WILLIAM GARDNER HALE and CARL DARLING BUCK. Ginn & Co., Boston, 1903. pp. 388. $1.00.

A French Reader. Arranged for beginners in preparatory schools and colleges, by FRED DAVIS ALDRICH and IRVING LYSANDER FOSTER. Ginn & Co., Boston, 1903. pp. 304. 50 cts.

COMMEMORATIVE NUMBER of *The American Journal of Psychology*, Vol. XIV, Nos. 3-4. July-October, 1903, pp. 1-430, [269-694]. Worcester, Mass., November, 1903.

This *Festschrift* in honor of the twenty-fifth anniversary of the attainment by G. Stanley Hall of the doctorate in Philosophy has neither the ponderosity nor the unevenness which detract from the interest and the value of many German works of the kind; it rises also above the glittering bulk without real depth of not a few French congratulatory tomes. An American scholar and man of science may well be proud of receiving from colleagues and former pupils the tribute of the 26 articles, covering all parts of the psychological field, here presented to the public.

The list of authors and their subjects may be taken to indicate an harmonious inclusiveness, which, however, has been achieved, by no deliberate correlation, but, apparently, by the movement of the spirit of the occasion.

Beaunis: La psychologie du rêve; Bentley: Fusion; Bergström: A new Ergograph; Bolton: Motor Development; Buchner: A Quarter Century of Psychology in America; Burnham: Retroactive Amnesia; Cattell: Statistics of American Psychologists; Chamberlain: Primitive Taste-Words; Dresslar: Are Chromæsthesias Variable? Edgell: Time Judgment; Ellis and Shipe: Fatigue Tests; Hyslop: Binocular Vision and the Problem of Knowledge; Jastrow: The Status of the Subconscious; Kirschmann: Deception and Reality; Kuelpe: Experimentelle Æsthetik; Leuba: The State of Death; Meyer (A.): An Attempt at an Analysis of the Neurotic Constitution; Meyer (M.): Experimental Studies in the Psychology of Music; Motora: Conductivity of the Nervous System; Patrick: The Psychology of Football; Pillsbury: Attention Waves as a Means of Measuring Fatigue; Sanford: On the Guessing of Numbers; Titchener: Class Experiments and Demonstration Apparatus; Washburn: The Genetic Function of Movement and Organic Sensations for Social Consciousness; Whipple: Studies in Pitch Discrimination; Wilson: Bibliography of the Published Writings of President G. Stanley Hall.

Dr. Beaunis holds that the dream has an important and as yet little studied influence upon the psychic phenomena of waking, both in the individual and in the race. In the dream, personality and the highest intellectual elements may appear. The biological evolution of the dream corresponds to the organic and psychological evolution of the individual. To the dream we owe the germ of beliefs in survival after death and the future life, with all their philosophic and religious consequences.

Prof. Kirschmann champions the declaration of Jesus that "the truth shall make you free," believing that "there is nothing unreal in this world except the products of human lying," and "the progress of human perfection depends on the degree to which we succeed in eliminating untruth." For this perfection "positive ideals of education are necessary, not the negative, prophylactive and preventative method."

Prof. Hyslop, in characteristic fashion, discusses the theory of the identity of knowing and being and the effect of the phenomena of binocular vision on the doctrines of Berkeley and Kant.

Prof. Bentley shows how "Herbart's system may fairly be said to express the spirit of modern psychology."

Prof. Washburn argues that "it is through the social action stimula-

ted by the behavior of others that conscious creatures have been led to social interpretation of that behavior." The movement and organic sensations produced by motor reactions of social utility, already on the field before social consciousness develops, are the genetic elements of which we are in search.

Professor Jastrow's interesting paper supports the theory that "from the neural as well as the psychological point of view, a subconscious impression is closely affiliated to, is kith and kin with, the conscious factors of experience." The secret of the unusual is found in the rationale of the common-place—"a common key will unlock the various compartments of the subconscious life."

Dr. Adolf Meyer's analysis of the neurotic constitution is a good, conservative treatment of a difficult topic, the key-note of which is in the statement that "the development of man is not a simultaneous evolution of all the traits of the complete adult, but one function after another comes to maturity, and, as a rule, there is an uneven development,—nobody is perfect in every respect."

Professor Patrick's discussion of the psychological and anthropological aspects of football should be read by every advocate and by every opponent of the strenuous game. For the onlookers, foot-ball is "sport pure and simple," whatever it may be for the players; it is a sort of Aristotelian catharsis, not a mere return to savagery.

Dr. Burnham presents a new theory of retroactive amnesia, based upon the fact that "the memory is lost because it was never fully organized,"—there must be time for nature to do her part.

Professor Leuba gives us a very readable discussion of "the state of death" of the Christian mystics,—the realization in an individual of an ideal in opposition to external influences and to the *primitive man* in himself. To the list of sources of variation must be added *inner adaptation*.

Dr. Chamberlain's study of Algonkian taste-words brings out the chief taste phenomena of primitive people,—there is scarcely any literature at all on this subject.

Miss Edgell's article on time-judgment comes from the laboratory of Prof. Waller at the University of London. The facts brought out by experimentation are that short durations are overestimated, longer durations underestimated; duration does not follow Weber's law. The author is also of opinion that "Ebbinghaus' system of measurement fails to have validity for any aspect of sensation."

Prof. Titchener makes some valuable suggestions about demonstration apparatus and lecture experiments suitable for a beginners' class in psychology, based on the fact that "now psychological instruction centers in the laboratory, rather than in the library."

Dr. Max Meyer treats of the æsthetic effects of final tones, the intonation of musical intervals, and quarter-tone music. The author questions the assumption that "the quarter-tone music of Oriental peoples is based on psychological laws fundamentally different from the laws of our common music."

Prof. Kuelpe, of Würzburg, catalogues the results of experimentation with 28 examples of classical art, unveiled for a few seconds before three subjects. The manifold character of reactions, the material and formal elements, the wealth of significance, etc., are noteworthy. The individual differences are also very suggestive.

In their investigation of the accuracy of fatigue tests Prof. Ellis and Miss Shipe conclude that the methods of testing fatigue now in vogue "are, as used at present, worthless as tests of fatigue, either in children or in adults." Analysis of "fatigue states" is needed to control

future experimentation. This article is a little lacking in seriousness, —at least, the reviewer thought so, when he first read it.

Prof. Bergström's description of the new ergograph perfected by him and his discussion of ergographic experimentation make up the longest article of the series, and his friends will be glad to see his results at last before the psychological public. It is a good piece of work well-described.

Prof. Pillsbury's investigation of attention-waves increases the evidence in hand that the attention waves have a daily rhythm in length analogous to the diurnal change in the rate of most physiological rhythms, such as the pulse and respiratory rhythms.

Dr. Whipple's studies in pitch discrimination deal with a case of "gift" in absolute pitch and a typical case of marked "unmusicalness," both young women. He reaches the conclusion that "it is still an open question, and one worthy of solution, as to whether musical incapacity, especially when discovered in early childhood, may not be remedied by proper training."

Prof. Cattell's article is part of a larger study of American men of science and contains data of real interest and value concerning the fame and possible future estimation of 200 psychologists, whose rank and position have been determined by the opinion of ten of their most prominent colleagues. The groups made up by the first fifty have been specially studied. These investigations seem to indicate that "psychologists are born, not made," a view from which the author was formerly inclined to dissent. The great influence of President Hall and his students at Johns Hopkins and Clark is very noticeable.

Prof. Motora's experimental study proposes a hydraulic principle in explanation of nervous conduction,—a sort of protoplasmic tube.

Prof. Bolton, from experimental tests, concludes that "movement may not be the sole source of mental representations, but representations of movements do enter into our mental constitutions, so that the higher our motor development has progressed, the more will our consciousness be built up from this source." In other words, "every new movement acquired adds a new piece of furniture to the mental household."

Prof. Dresslar, from the study of an individual case, the test records of which are given, finds that, for eight years at least, no appreciable changes in the color-feelings of the subject for the letters of the alphabet, or for the names used in the test, have taken place.

Prof. Sanford's article is based on the data of a guessing contest in the city of Worcester and shows that habits in the guessing of numbers are not fixed and constant, as is generally believed, but "vary characteristically with variations in the conditions under which the guessing is carried out."

Prof. Buchner's historical sketch, treating of men and books, emphasizes the growth of the "new psychology," with its experimental and comparative sides. To-day philosophy grows out of psychology, and not *vice versa*, as before.

The series of papers aptly closes with a fairly complete bibliography of President Hall's published writings by Mr. Louis N. Wilson, which will be welcome to his admirers and useful to students of psychology and child study.

A review can never do full justice to a volume like this, but from the subjects discussed and the manner of their treatment an idea of its general merit can be had. Psychologists and teachers will find it a work of reference, which, unlike some in that category, can be read with pleasure.

It is a representative volume also, containing contributions from

the Universities and Colleges following: Alabama, Bryn Mawr, California, Clark, Columbia, Cornell, Indiana, Iowa, London, Michigan, Missouri, Nebraska, Paris, Texas, Tokyo, Toronto, Vassar, Wisconsin, Würzburg, and the State Pathological Institute of New York. It is understood that a limited number of the volumes are for sale and may be obtained from Louis N. Wilson, publisher, Worcester, Mass., at the price of two dollars and a half. A. F. C.

Memoirs of a Child, by ANNIE STEGER WINSTON. Longmans, Green and Co., New York, 1903, pp. 169.

Miss Winston's charming little book makes no pretensions of being a psychological study, though it is an excellent one. It is merely a collection of childish reminiscences, disconnected, incomplete, seen through the haze of intervening years, here and there some scene or experience standing out with vivid distinctness, while again only fragmentary glimpses are recalled and the connecting links are lost. But so true are these glimpses into a half forgotten past that in reading them one is carried back into childhood days and recognizes in the child of the "Memoirs" many of his own childish thoughts, feelings and experiences. There is no attempt, for the sake of literary completeness, to fill the gaps or connect the scattered reminiscences; only the actual recollections are set down with no effort to supplement them, and in this fact lies the value of the book not only as a study of childhood but as a study of reminiscence.

THEODATE L. SMITH.